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UNIVERSITY OF IDAHO
AGRICULTURAL EXPERIMENT STATION

The
FARMING BUSINESS IN IDAHO

Being Part I of

Tentative Report of the Agricultural Situation, Based on
an Economic Survey of the Production and Marketing
of Idaho Farm Products

Cooperation With the Bureau of Agricultural Economics, United States
Department of Agriculture

LLETIN NO. 151 JULY, 1927

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* In cooperation with U. S. Department of Agriculture.

AGRICULTURAL ECONOMIC SURVEY

A TENTATIVE REPORT OF THE AGRICULTURAL SITUATION BASED ON AN ECONOMIC SURVEY OF THE PRODUCTION AND MARKETING OF IDAHO FARM PRODUCTS

The investigations reported in this bulletin are a part of the general economic survey of Idaho griculture and its relation to the national situation, conducted by the Idaho Agricultural Experi-ent Station in cooperation with the Bureau of Agricultural Economics of the United States epartment of Agriculture, the Idaho State Department of Agriculture and other Idaho agencies.

art I. The Farming Business in Idaho .... Bulletin No. 151
art II. The Dairy Situation in Idaho .... Bulletin No. 152
art III. The Potato Situation in Idaho .... Bulletin No. 153
art IV. The Poultry Situation in Idaho .... Bulletin No. 154

THE AGRICULTURAL ECONOMIC SURVEY OF IDAHO

Part I. The Farming Business in Idaho

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INTRODUCTION

study of the economics of Idaho agriculture involves consideration
ny farm enterprises carried on under greatly varied physical and
mic conditions.

m the standpoint of topography, geography and climate, there are
tates that present so much variation as is found in Idaho. The
le of the agricultural sections ranges from a few hundred feet in
.ewiston district to more than 6000 feet in the Teton Basin.
se of these great differences in topography and elevation, the grow-
asons, precipitation, and other climatic conditions vary considerably,
within communities. Soil variations are almost equally great.

a result of these varied conditions, many different types of farming
acticed in the state. There are irrigated areas, dry farm areas, rain-
reas, and large range areas, each being especially suited to certain
of farming.

nditions in Idaho in general are favorable for the production of a
variety of farm products from the standpoint of large yields of high
y. But in spite of these favorable physical conditions, economic
s limit or even eliminate the growing of some products on a com-
al scale. Local markets absorb only a relatively small proportion of
roducts grown on Idaho farms. In most instances the consuming
ts for the surplus are widely scattered thruout the West and Middle-
Competing producing areas, in general, are more favorably lo-
with respect to proximity to markets. Idaho is, therefore, more
ed by price fluctuation because of the relatively higher transporta-
xpense.

e greatest problem that confronts the farmer in Idaho is to select
nes of production that will yield him the largest net returns with
sources at hand. Problems of this nature are sometimes approached
ing to compare the production costs in the local area with compet-
reas. Even though such an approach might be helpful, it is not
le in this study because of the lack of adequate facts on costs of
cing each important product on farms in Idaho, and in the areas
ting with Idaho.

e facts are, however, that cost comparisons alone would at best be
icient in the approach to the problem as to whether a particular
f production or system of farming should be encouraged in a region
gions being studied. One important reason for this is that farming
ordinary circumstances is carried on under conditions involving,
rge measure, problems of fixed charges, joint costs and the neces-
or more or less arbitrary valuations to be placed on many cost fac-
The result is that the consequent money costs are subject to all the
retative modifications necessary because of the arbitrary assump-
involved in the allocation of joint costs and in the valuation of many
elements of costs for which rates are very difficult to obtain.

mers in Idaho, for example, can not decide whether they can afford to produce early potatoes, merely by comparing their costs (as the term "cost" is ordinarily used) of producing early potatoes with those in Kansas or Colorado (taking into account the factor of transportation cost as well) who are competing with them for the market for their early potatoes. A given product is not necessarily produced entirely or even primarily where it can be produced better than elsewhere. It has been pointed out that sugar beets could be grown as satisfactorily, if not more so, in the heart of the corn belt than in Michigan or Colorado, where they are grown; but corn has the first choice of land in the corn belt and consequently beets are not grown there.

What Idaho farmers have to decide is whether the production of early potatoes, either as a supplementary enterprise or as a major line of production, is one element in their systems of farming which will enable them to obtain a more profitable utilization of their farming resources than they could obtain by any other combination of enterprises which did not include early potatoes.

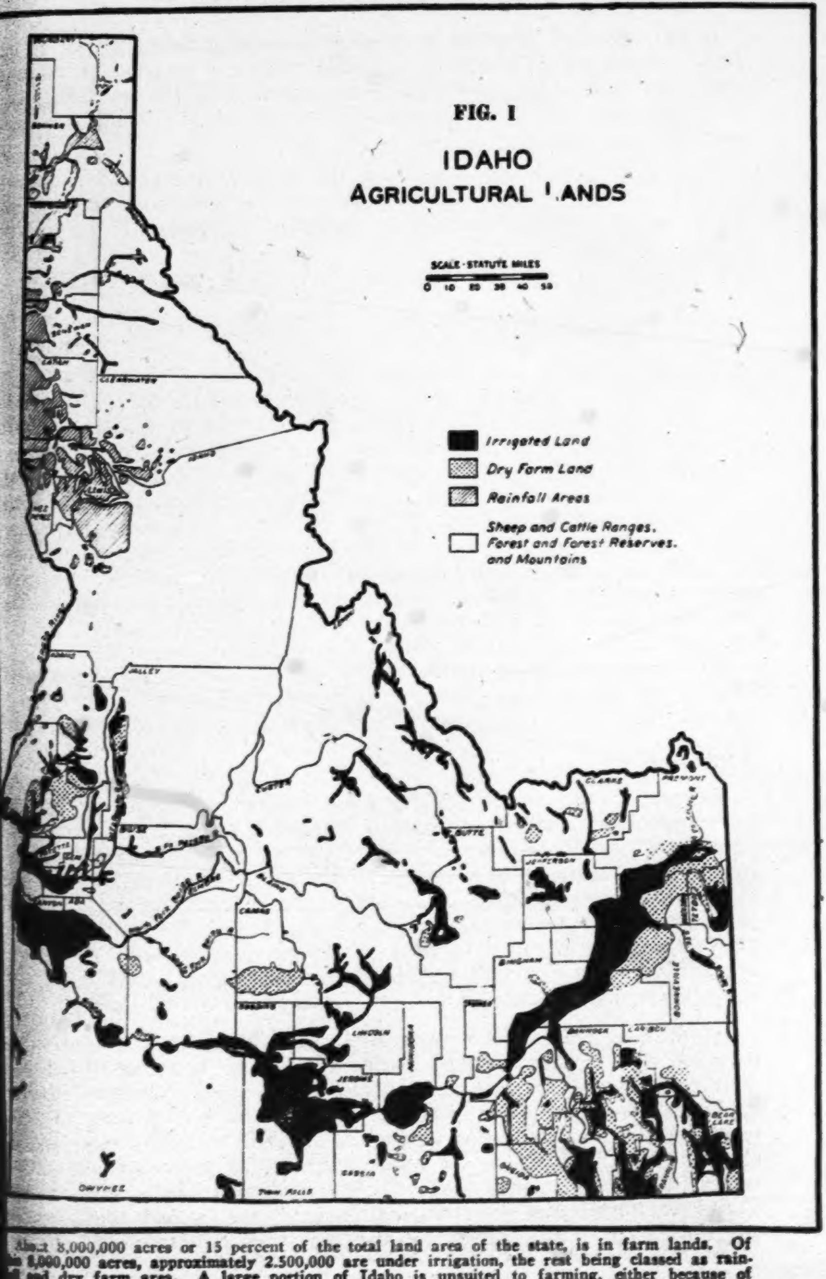
Idaho farmers should survey the various possible alternatives which are most likely to prove to be profitable systems of farming and select the one which, all factors considered, promises the greatest continuous profit for the period of operation being considered. The length of the period involved makes this a more difficult problem for one who contemplates building a new dairy barn or starting an orchard, than for one who is considering how many acres of potatoes to plant next year.

The basis upon which farmers must reach their decisions upon the question of best choice of enterprises (if they attempt anything more than a mere guess as to the most desirable procedure) will be the consideration of these external and internal factors.

The usual approach to the problem by farmers is to be influenced primarily by customary farming carried on in the community and the individual's previous experience, rather than by any reasoned consideration of the possible returns to be obtained from various alternative combinations of enterprises which they might choose to include in their plan of farming. This is quite largely responsible for the periodic over-and-under expansion of particular lines of production.

To attain economic success, farmers in Idaho especially must approach their problem of the choice of farm enterprises by a consideration of the factor of competition with other areas, along with the internal conditions of their own farms. These latter internal factors involve a thoro knowledge of the production requirements of different systems of farming, inter-relationships of crops and livestock, cultural and feeding practices, climatic, moisture, and other hazards, and so on. The influences of competing areas (the external factor) is reflected in the price of the product. With competing areas expanding production, lower prices tend to follow. The fact, too, that competing areas are expanding production indicates that the enterprise is very likely profitable, otherwise farmers in those areas would not be expanding that particular enterprise.

FIG. I


SCALE - STATUTE MILES
0 10 20 30 40 50
Irrigated Land
Dry Farm Land
Rainfall Areas
Sheep and Cattle Ranges. Forest and Forest Reserves. and Mountains
CLEARWATER
IDAHO
VALLEY
CUSTER
BOISE
CANYON
ADA
CAMAS
BUTTE
CLARKE
FREMONT
JEFFERSON
BINGHAM
BONNEVILLE
BANNOCK
CARIBOU
BEAR LAKE
LINCOLN
JEROME
MINIDOKA
GOODING
POWER
CASSIA
TWIN FALLS
OWYHEE
ONEIDA

IDAHO
AGRICULTURAL LANDS

About 8,000,000 acres or 15 percent of the total land area of the state, is in farm lands. Of 8,000,000 acres, approximately 2.500,000 are under irrigation, the rest being classed as rain- l and dry farm area. A large portion of Idaho is unsuited to farming, either because of fficient rainfall or because the land is too rough or too shallow to permit its use for farming poses. Much of the area not in farms, such as the public domain, forests, and forest reserves, ed for sheep and cattle grazing at certain seasons of the year.

It was with the objective in mind of furnishing farmers with all the facts available on the trends in competing areas and on some of the more important internal economic conditions prevailing in the several agricultural areas of Idaho, that this survey has been carried on and the following report prepared.

Plans have been made to complete the regional and county studies as expeditiously as possible and to make practical local adaptation of the more general analyses developed in the general survey.

GENERAL FACTORS IN IDAHO AGRICULTURE

Topography and Climate

The topographical and climatic characteristics of Idaho are very diverse. The altitude of the state ranges from about 700 feet at the junction of the Clearwater River with the Snake River, to well over 12,000 feet in the Sawtooth Mountain region. The surface is broken by numerous mountain ranges and by intervening valleys of varying width and depth and extent. (See Figure 2.) The great irregularity of physical features makes it exceedingly difficult to discuss in general terms any of the phases of Idaho climate. However, so far as temperature and precipitation are concerned, there can be no doubt that altitude is a more potent factor than latitude in climatic control. Boundary County in the extreme north has a higher mean annual temperature than any of the counties of the southeastern plateau.

For convenience in discussion of the climatic and topographical features of the state it is divided, approximately along the forty-fifth parallels of latitude, into two sections, northern and southern Idaho.

Northern Idaho

Northern Idaho, sometimes called the panhandle, includes the counties of Boundary, Kootenai, Shoshone, Benewah, Latah, Nezperce, Lewis, Clearwater, and Idaho, and portions of Adams, Valley and Lemhi counties. It covers an area of about 24,500 square miles which is a little less than one-third of the total area of the state. The general tilt of this section is toward the west, sloping from the summits of the lofty chain of mountains that forms much of the eastern boundary toward the valleys of the Snake and Columbia rivers. The entire region lies in the drainage basin of the Columbia River. It is exceptionally well watered.

In the lower valleys the winters are quite mild, but in the higher plateau and high mountain valley districts the winters are long with abundant snow and occasional severe cold. The sharp contrast betwee valley and mountain winters is shown by the average minimum tempertures for the winter months at Lewiston (28.8°) and Forney, Lem County (7.4°). However, the temperatures experienced are not as severe as the latitude and altitude of the section might lead one to expe The prevailing winds are westerly and the entire section feels that amelioating influence of the Pacific Ocean. The mountain ranges along t

FIGURE II

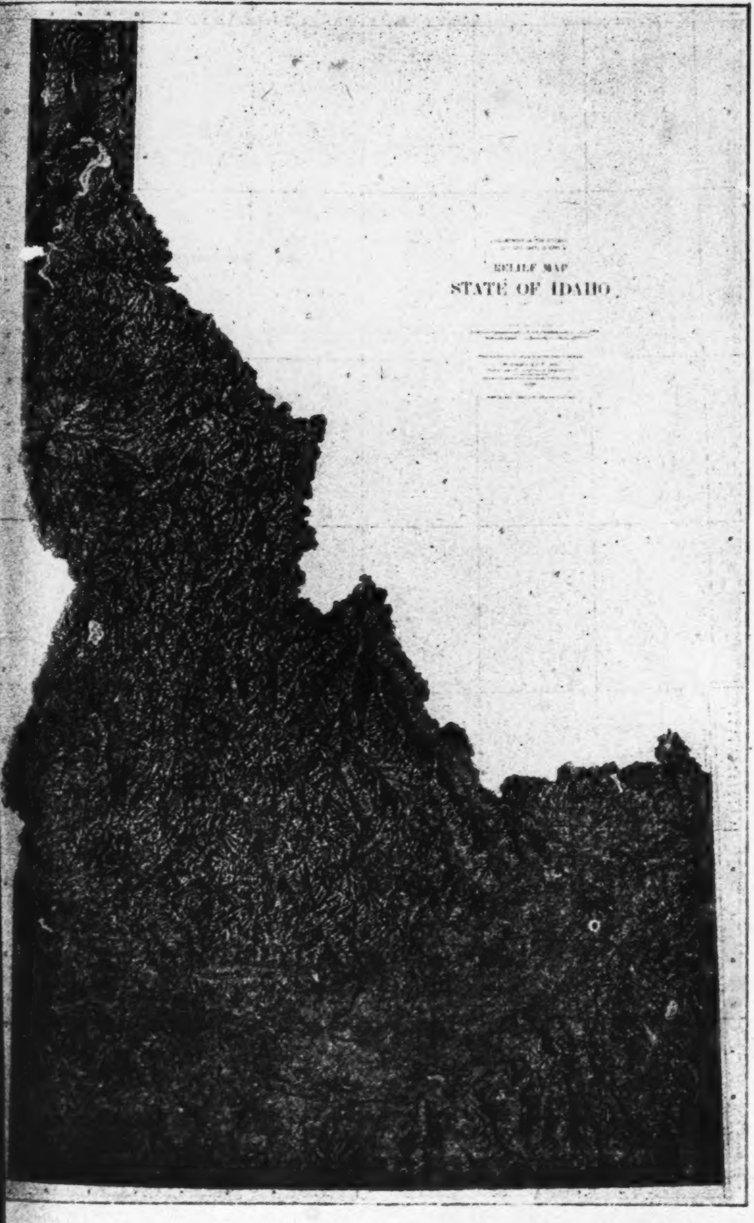

RELIEF MAP
STATE OF IDAHO

FIG. III

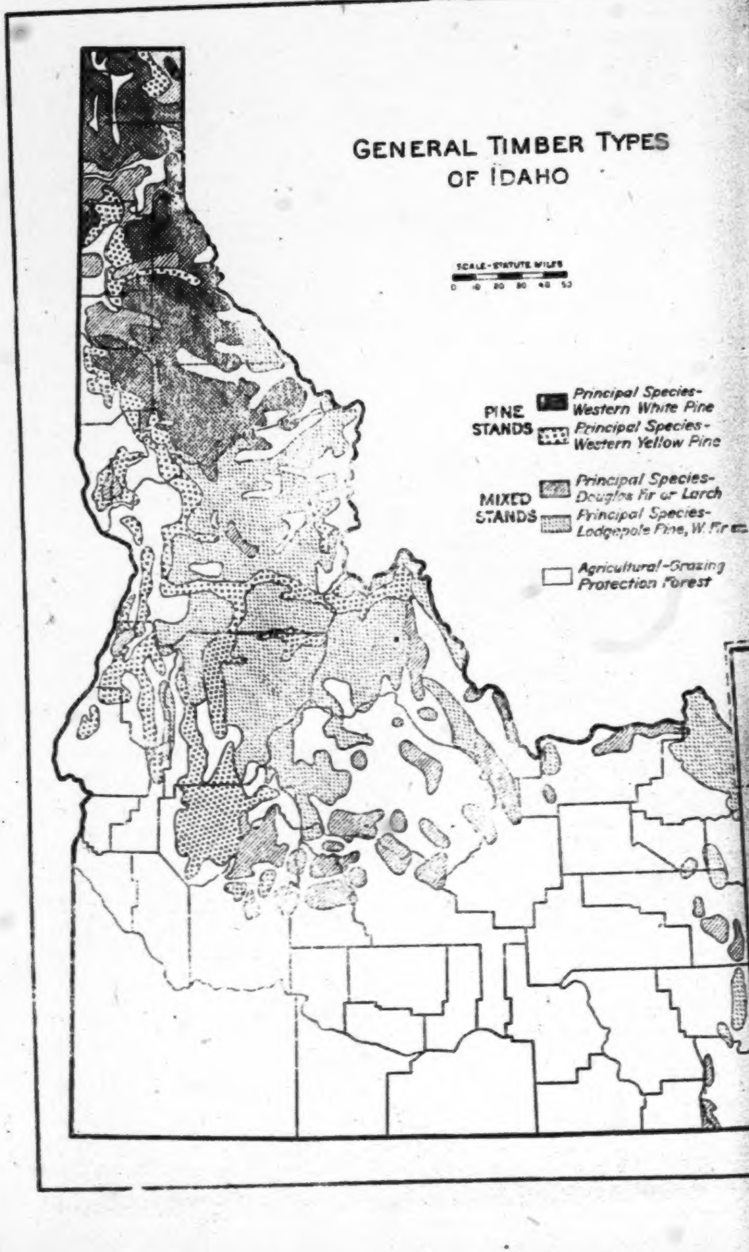
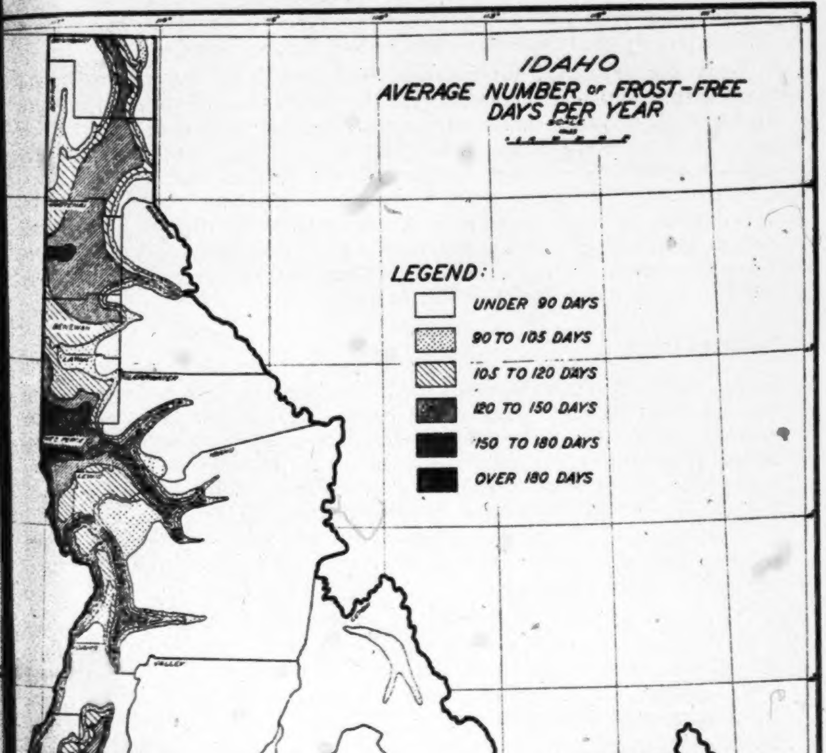

GENERAL TIMBER TYPES OF IDAHO
SCALE - STATUTE MILES
0 10 20 30 40 50
PINE STANDS
Principal Species- Western White Pine
Principal Species- Western Yellow Pine
MIXED STANDS
Principal Species- Douglas Fir or Larch
Principal Species- Lodgepole Pine, W. Fir
Agricultural-Grazing Protection Forest

FIG. IV


IDAHO
AVERAGE NUMBER OF FROST-FREE DAYS PER YEAR
SCALE
LEGEND:
UNDER 90 DAYS
90 TO 105 DAYS
105 TO 120 DAYS
120 TO 150 DAYS
150 TO 180 DAYS
OVER 180 DAYS
VALLEY
CUSTER
BOISE
CAMAS
BUTTE
CLARKE
FREMONT
TETON
CARIBOU
JEROME

eastern border play a very useful part in deflecting to the eastward most of the great cold waves that sweep down across the Canadian border. This is largely the timbered section. (See Figures 3 and 4).

Generally speaking, precipitation increases from east to west and also, within limits, it increases with the increase of elevation, but there is, after all, almost as much variation in the distribution of precipitation as there is in temperature. (See Figure 5). The average annual precipitation over the greater portion of the section exceeds 20 inches. The seasonal distribution of precipitation is generally good. However, it is lightest during July and August and summer drouths are experienced occasionally. Over most of the section the heaviest precipitation occurs in early winter, November and December, but in the southern portion the maximum occurs in May and June.

Southern Idaho

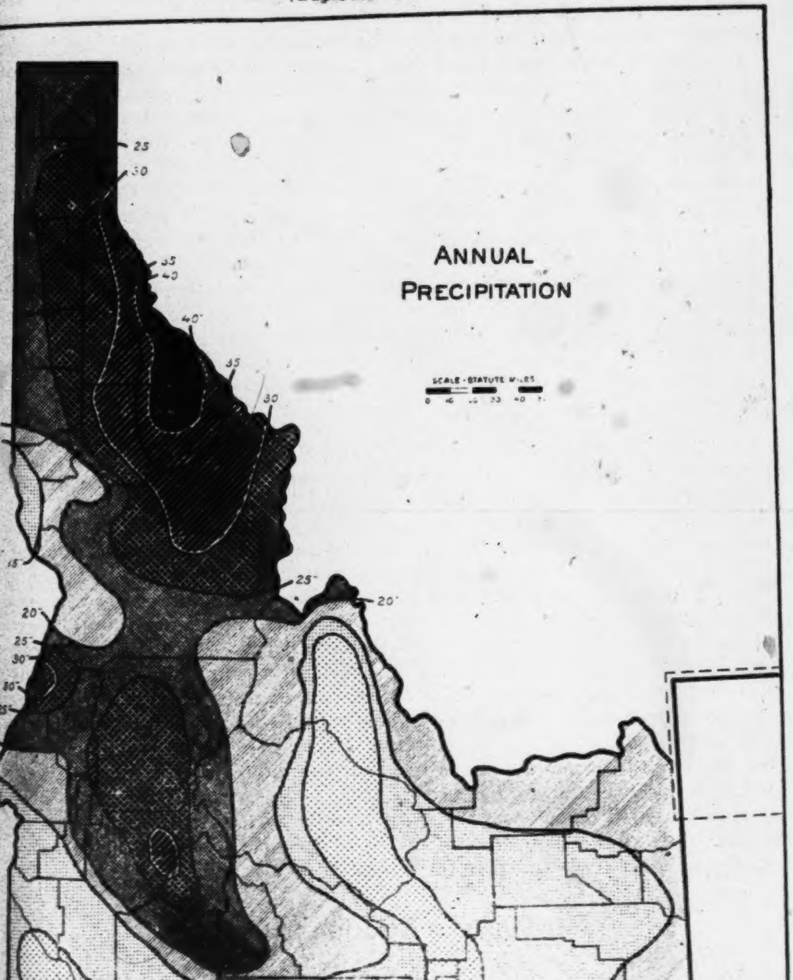
The southern section is much the larger, embracing a little more than two-thirds of the total area of the state. This section lies west of the continental divide and its general slope is toward the west. The Snake River, flowing in a great semicircle, crosses it from east to west and on either side of this great stream the Snake River Plains extend for miles, forming one of the distinctive topographical features of southern Idaho. The elevation of the plains decreases gradually from 6,000 feet at the eastern extremity, not far from Yellowstone Park, to 2,125 feet at Weiser, which lies at the western end.

With the exception of a relatively small area in the extreme southeastern portion, which lies in the Great Basin and is drained by the Bear River, and another small area along the northern side which is drained by the Salmon River, this section lies in the drainage basin of the Snake River and is an important part of the great Columbia River drainage basin.

The average winter temperatures of southern Idaho are about the same as those experienced in Colorado, Kansas, Illinois, and Indiana, while the average summer temperatures approximate those prevailing in Montana, North Dakota, and northern New York. The coldest portions of the section are comprised in the sparsely settled Sawtooth region and the high slopes of the Tetons along the eastern border. In these mountain sections the winters are long and the cold at times is severe (temperatures falling to 30° or 40°, sometimes 50° below zero). The summers are short and cool, altho in the sheltered valleys summer afternoon temperatures sometimes run quite high; radiation, favored by the clear dry air, is extremely rapid and in consequence the summer nights are cool and free from the disagreeable mugginess so often experienced in more humid regions. In these regions frost is likely to occur in midsummer. (See Fig. 4).

The extensive plateaus and high valleys that form a considerable part of this section are somewhat warmer than the mountainous regions described above, but their elevation being considerable, the winters are

FIGURE V


ANNUAL PRECIPITATION
SCALE - STATUTE MILES
25
30
35
40
40"
35
30
25"
20"
15"
20"
25"
30"
30"
15
10
10"
15"
15"

cold and the summers short and cool, yet long enough to produce a growth of grass and to mature the staple cereal crops. With the descent from elevated plateaus and high valleys to the lower valleys and the Snake River Plains temperature conditions change. In the eastern portions of the section, where the plains are relatively high, the winters are moderately cold and the summers are moderately warm. In the western portion of the section, where lie the lower levels of the plains and the broad valleys of the Boise, Payette, and Weiser rivers, the winters are mild, temperatures below zero occurring only rarely; the snowfall is for the most part light and generally remains on the ground but a short time; the growing season is relatively long, approximating that of Kansas and the southern portions of Missouri, Illinois, and Indiana. During the long and almost cloudless days of summer the afternoon temperatures rise high, frequently exceeding 100°, but even during the heated periods of summer the nights are almost invariably cool. This is the warmest part of the section. It seldom happens that fall frosts do serious damage, but late frosts in spring and early summer sometimes play havoc with orchards and gardens and damage the cereals.

The regions of heaviest annual precipitation coincide, roughly, with the areas of lowest annual mean temperature, while the driest sections lie in the areas of highest annual mean temperature. Within certain limits precipitation increases with elevation. In some localities the annual precipitation exceeds 30 inches, while over a considerable area of the mountainous section the annual precipitation is quite generally more than 25 inches. There is another considerable area, embraced in the eastern plateau and high central valleys, where the annual precipitation exceeds 15 inches, 40 to 50 percent of which occurs during the growing season from April 1 to September 30. It is in the favorable localities of this belt that "dry farming" is practiced but even here irrigation is carried on where water is available. The region of least annual precipitation is that portion of the Snake River Valley and Plains reaching from the vicinity of the Salmon Falls to about the mouth of the Boise River. In these districts the annual precipitation is less than 10 inches. This is entirely too little for crop needs, especially as less than 40 percent of it falls during the crop season, and it is possible to carry on farming successfully only where water for irrigation is available.

Soil Types in Relation to Crops

Soil types are greatly varied in Idaho. They have a considerable influence upon the character of agriculture practiced and even help to determine whether particular areas will be used for agriculture at all. (See Fig. 6).

In northern Idaho the soils are chiefly aeolian, glacial, and residual. The aeolian soils are practically all a silt loam of desirable depth and water-holding capacity. Very satisfactory crops of wheat, oats, barley, peas, and potatoes as well as small fruits may be grown on this type of soil. Corn can be grown in some localities and sunflowers over practically the entire area. The glacial and residual soils vary from deep silt loams and clay loams to sand and gravel. Some sections are spotted with good and poor soils while others contain large areas of soil admirably suited to agriculture. There are also some large areas, morainic in character, so sandy and gravelly that they should never be cleared.

In general, crops grown in this area are similar to those grown on other soils and very satisfactory yields can be obtained.

Dyked Lands

Along the Kootenai, Coeur d'Alene, St. Joe. and St. Maries river bottoms a considerable area of land subject to annual overflow has been dyked and is being farmed. These rich alluvial lands have produced some of the highest yields per acre of any land in northern Idaho.

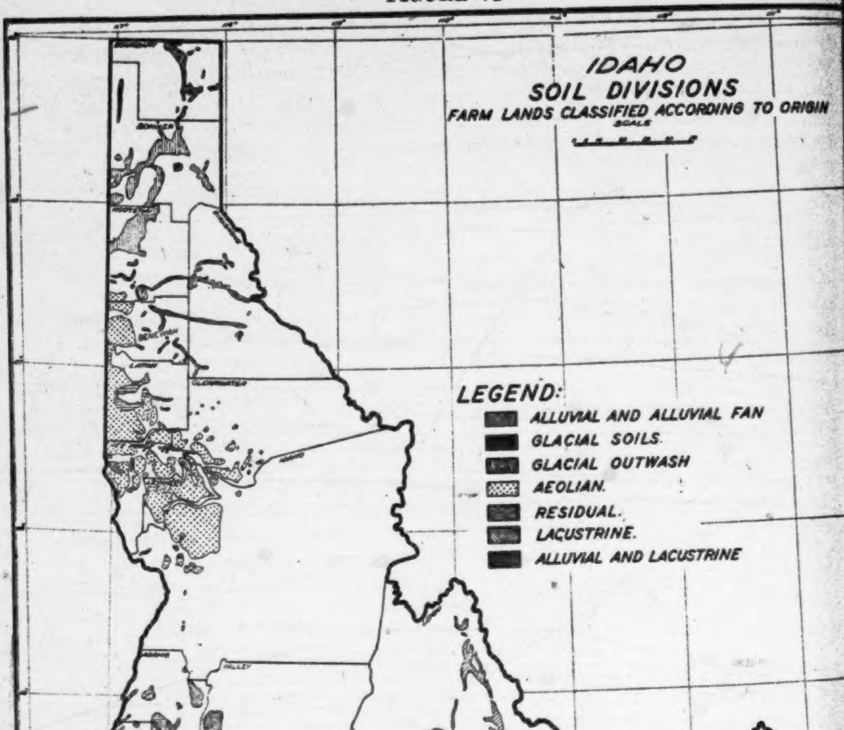
The large areas of irrigated land chiefly in southern Idaho can be roughly divided into three sections, namely, the Boise Valley with the adjacent Weiser and Payette valleys, the Snake River Plains, and the Upper Snake River country. Here the prevailing desert soils are somewhat deficient in organic matter and nitrogen but are usually well supplied with the mineral elements. In order to build up these lands to a satisfactory state of production a legume is sown soon after the land has been put under cultivation. The lacustrian soils of the Boise, Weiser, and Payette valleys are rich and fertile except where a considerable amount of alkali, accumulated during the last stages of the lake period, has left scattered over this area alkali spots and "slick" spots. The soils of the

TABLE I. Farm Lands, Value per Acre, Idaho 1912-1925 (1).

	All farm lands		Plow lands		
	With improvements	Without improvements	Poor	Good	All
1912	$ 66.	$ 45.			
1913	60.	40.			
1914	63.	43.			
1915	66.	44.			
1916	64.	48.	34.	68.	53.
1917	71.	55.	37.	77.	58.
1918	87.	64.	43.	89.	70.
1919	97.	77.	50.	98.	76.
1920	125.	95.	60.	135.	105.
1921	125.	95.	58.	128.	99.
1922	105.	80.	50.	110.	85.
1923	92.	75.	46.	93.	76.
1924	90.	68.	42.	88.	68.
1925	94.	70.	44.	90.	68.

(1) Data from state statistician.

FIGURE VI


IDAHO
SOIL DIVISIONS
FARM LANDS CLASSIFIED ACCORDING TO ORIGIN
SCALE
LEGEND:
ALLUVIAL AND ALLUVIAL FAN
GLACIAL SOILS.
GLACIAL OUTWASH
AEOLIAN.
RESIDUAL.
LACUSTRINE.
ALLUVIAL AND LACUSTRINE
BONNER
KOOTENAI
BENEWAH
LATAH
CLEARWATER
IDAHO
ADAMS
VALLEY
BOISE
GEM
ADA
CUSTER
BUTTE
CLARK
FREMONT
CAMAS
JEROME
CARIBOU

entire area contain some alkali, but it is only in the places of greatest concentration, as where the salts have been leached from the higher sections and concentrated in the lower levels, that there is any difficulty. The Snake River Plains and in general the Upper Snake River sections are the most uniform of any of the irrigated areas. The soils are almost all of the silt-loam types and are aeolian in origin with occasional areas of alluvial fan material, old valley filling and recent alluvium.

Land Values, Tenancy and Tenure

Land Values

Average land values in Idaho trended upward from 1910 to 1920, then downward for a few years, and slightly upward again from 1924 to 1925. Table 1 shows the value of all farm lands and plow lands beginning with 1912 and 1916 respectively.

The upward trend in land values from 1910 to 1920 can be attributed partly to the opening of large areas of irrigated lands during the period, and also to the prosperity which agriculture enjoyed during the war. Land values in some areas were inflated to highly speculative proportions, while in other areas they rose moderately. After 1920, however, values fell considerably in Idaho as well as elsewhere, due to the severe depression that occurred over the country.

Tenancy and Tenure

Ever since agriculture began to assume an important position in Idaho, tenancy has been on the increase, as indicated in Table 2. For each census year the share tenants have predominated in the tenant group. Farms operated by managers occupy a relatively unimportant position in Idaho's system of land tenure, having ranged from 1.2 to 1.8 percent of all farms for the three census years.

TABLE 2. Number of Farms by Tenure, and Percentage of Each Class—Idaho, 1910-1920-1925.*

Year	Total number on farms	Full owners and part owners		Tenants				Managers	
		No.	Percent	No.	Percent Total	Percent Share	Percent Cash	No.	Percent
1910	30,807	27,169	88.2	3188	10.4	7.0	3.4	450	1.4
1920	42,106	34,647	82.3	6701	15.9	10.6	5.3	758	1.8
1925**	40,592	30,195	74.4	9886	24.4	19.0	5.4	511	1.2

* Date from federal census
** Preliminary

When compared with the average of the other mountain states, the Idaho figures present no abnormal condition. (See Table 3).

The following table indicates the extent of tenancy by counties in 1925. It will be noted that there is a low percentage of tenancy in the southeast counties of Oneida, Franklin, Bear Lake, Bannock, and Cari-

TABLE 3—Percentage of Ownership and Tenancy in Idaho, the Mountain States and the United States—1910-1925*

Area	1910		1920		1925**	
	Owners	Tenants	Owners	Tenants	Owners	Tenants
Idaho	88.2	10.4	82.3	15.9	74.4	24.4
Mountain States	88.5	10.8	82.8	15.4	76.4	22.2
United States	62.2	37.0	60.8	38.1	60.7	38.6

* Data from federal census.
**Preliminary.

bou; in Teton and Clark counties in the east; in the counties of central Idaho; in Owyhee and Adams counties to the west, and in most of the counties to the north. The counties showing higher percentages lie principally in the larger irrigated sections of Idaho, although Lewis and Nez Perce counties in the north are exceptions.

TABLE 4—Rank of Counties by Percentage of Tenancy—Idaho, 1925.

County	%	County	%	County	%
Jerome	48.2	Jefferson	24.2	Adams	14.0
Fremont	37.7	Power	23.2	Elmore	13.8
Twin Falls	35.6	Benewah	22.6	Caribou	12.6
Bonneville	34.7	Payette	21.6	Kootenai	12.6
Lewis	33.8	Washington	21.5	Boundary	12.5
Minidoka	33.3	Idaho	21.4	Boise	12.0
Gooding	31.6	Gem	20.4	Franklin	11.7
Ada	30.1	Valley	20.1	Oneida	11.5
Ner Perce	29.9	Blaine	19.9	Clark	10.0
Bingham	29.6	Clearwater	19.9	Bonner	8.4
Canyon	29.5	Owyhee	19.2	Shoshone	6.8
Cassia	28.3	Bannock	17.0	Bear Lake	6.1
Lincoln	27.8	Latah	17.0		
Madison	27.7	Teton	15.6		
Butte	27.1	Camas	15.5		
		Lemhi	15.2		
The State	24.4	Custer	14.4		

* Data from federal census

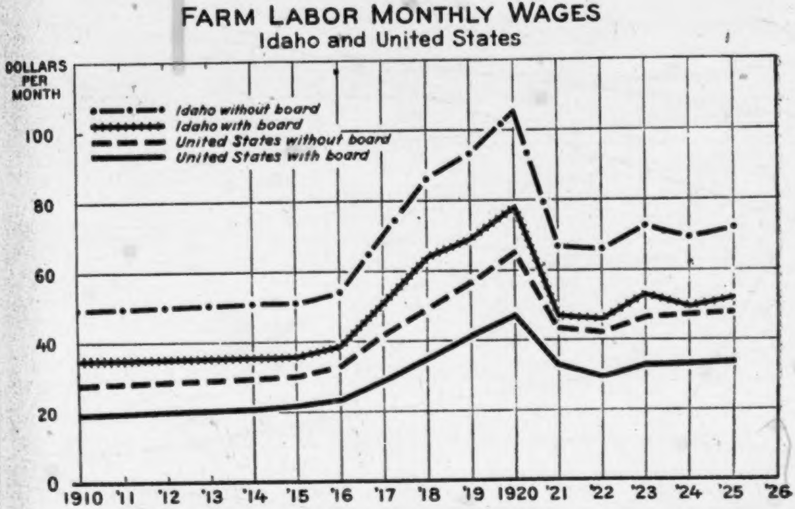
Wages

The trend of wages for farm labor in Idaho and in the United States as a whole is indicated in Figure 7. This figure shows that monthly wages have been consistently higher in Idaho than in the United States as a whole.

The Agricultural Credit Situation

It is customary to divide farm credits into three classes, first, long term credits ranging from three to forty years; second, what is ordinarily called intermediate credits, covering periods of six months to three years, and third, short term loans ranging up to six months maturity. The first of these forms is employed for the purchase of land and improvements or for the refinancing, at lower interest rates, of obligations incurred for the same purposes. Intermediate credits, that is, loans for six months to three years, are ordinarily extended for development purposes, for carrying certain production programs such as the fattening of livestock and for less permanent improvements and equipment. Finally, short term, or what in other fields would be called commercial credits, are used to carry shorter production programs and to finance the marketing of agricultural products.

FIGURE VII



The above classification only partially fits the Idaho picture, inasmuch as the second and third forms of credit are largely merged, so far as security is concerned, both representing chattel mortgages or personally secured notes. No hard and fast distinction, for that matter, is always made between the first and second forms of credit. Personal credit is not infrequently used in financing permanent improvements, as well as for the purchase of equipment. There are many second mortgages in Idaho and they represent one of the outstanding credit problems in the state. It does not follow, however, that the classification adopted above is entirely useless. Its value lies in the fact that existing credit facilities, particularly those operated under government control, undertake to reorganize this classification and to adhere to it in making advances or in discounting loans contracted with other credit agencies.

LONG TERM CREDIT. It is a commonplace that farming involves a larger amount of fixed capital in proportion to the value of the annual output than almost any other industry. One of the basic credit needs, accordingly, has arisen in connection with the purchase of the farm plant itself. Up until the present it has been the solution of this aspect of the problem that has chiefly interested the producer. The total amount of mortgage debt on Idaho farms is reported as follows in the case of owner-operated farms:

1910, $14,577,000. 1920, $69,868,000. 1925 $54,912,000

The total mortgage debt in 1920 including both tenant-operated and manager-operated farms is estimated at $115,400,000.

The following table indicates, by districts, the percentage of owner-operated farms carrying mortgages:

TABLE 5—Percentage of Owner-Operated Farms Carrying Mortgage Debts by Districts

Rank		District	1910	1920	1925	Percentage Change	
						1925 1910	1925 1920
As of 1925	1	The Panhandle	22.9	49.0	40.6	77.2	17.2
	2	Lemhi County	22.2	55.3	44.8	101.8	19.0
	3	Palouse counties	33.0	52.5	47.4	43.6	9.8
	4	Southeastern counties	30.1	65.8	54.2	80.0	17.7
	5	Western Snake counties	30.9	62.3	54.5	76.3	12.6
	6	Upper Snake counties	43.8	64.7	59.8	36.5	7.6
	7	South central counties	35.2	72.0	63.0	78.9	12.5
		State	33.4	62.8	54.7	63.7	12.9

While there was a marked increase in the percentage of mortgaged farms as of 1920 contrasted with 1910, it will be observed that in the five years from 1920 to 1925 there was a distinct falling off in the percentage of such mortgaged farms, Viewed by districts, the rank as of 1925 is the same as that of 1910, North Idaho, Lemhi County, the Palouse counties, southeastern Idaho, and the western Snake counties being below the average of the state, the upper and central Snake River counties being above the average.

The decline in the percentage of owner-operated mortgaged farms represents in part, of course, the repayment of mortgages. A reflection of this situation appears in the state banking situation. Deposits in state banks have increased since 1922 nearly 8 million dollars, while loans by state banks during the same period have decreased nearly 6 million dollars. It should be added, however, that most of the loans made by state banks are either second mortgages or short term advances. There is a further aspect to this problem. The reduction in the percentage of owner operated farms also represents to no small degree the consequence of extensive foreclosures and the passing of farms formerly operated by owners, into the hands of mortgage companies and on to renters.

Whatever may have been the possible lack of long term credit facilities in other sections of the country it can scarcely be said that in Idaho there has been any actual lack of such credit where proper security was available. Credit has been provided in this state by the following agencies: (1) Mortgage loan and insurance companies, (2) the federal farm loan system, (3) private capitalists, frequently retired farmers, (4) local banks, (5) other agencies.

No adequate statistical information is available as to the relative importance of these, but the order given above represents the probable ranking.

First in importance, then, are the mortgage loan companies and the insurance companies. The former handle a large amount of the first mortgages in Idaho and the latter, directly or indirectly, a constantly increasing volume also. It is difficult to differentiate between the two statistically. In 1923, the insurance companies lowered their average rate of interest in Idaho from 7.4 percent to 6.4 percent, the effect of which was not only to increase their own volume of business but to lower the going rate on farm mortgages as a whole. Considering the state as a whole, there is a considerable region in southern Idaho, chiefly the irrigated counties, where the insurance companies seem not to have operated to as large a degree as the mortgage loan companies. Portland and Spokane houses and a number of eastern investment companies operating out of Salt Lake City are chiefly represented. In the Palouse counties and northern Idaho, on the other hand, the insurance companies are probably first in volume of business handled, with the Federal Land Bank second.

Second in importance as a source of long time farm credit is the federal farm loan system. In many sections of the state it ranks first. The following table indicates the aggregate number of loans and the value of such loans in this state by districts, as of June 30, 1926:

TABLE 6—Aggregate of Loans, Federal Land Bank

District	No. of Loans	Total Amount	Average Loan
South central counties	1516	$ 6,502,750	4289
Western Snake counties	1831	5,901,400	3223
Palouse counties	1024	4,118,800	4022
Upper Snake counties	1074	4,099,400	3817
Southeastern counties	807	2,941,800	3645
The Panhandle counties	668	1,285,900	1925
Lemhi County	102	447,600	4388
The state	7022	$25,297,650	3602

It will be noted that not only has the greatest amount of loans been made in the South Central counties but also that in these counties the average loan is highest. Lemhi County is an exception. While the western Snake counties come second in the aggregate amount of money advanced, the Palouse counties rank second in the average value per loan.

Of the four states comprising the Spokane district, Idaho ranks first in the extent to which it is taking advantage of federal farm loan credit facilities. This method of financing has become recognized and well established. It has enabled many farmers to refinance outstanding obligations at lower rates and, of course, for a longer term of years. Earlier criticism on the score of red tape and appraisal and other incidental fees has gradually waned.

From the standpoint of the Federal Land Bank the amount of delinquency which ran rather high in 1924 and 1925, is being steadily and satisfactorily reduced. At the close of 1923 about 95 percent of the loans made by this system in Idaho had been contracted through farm loan associations; the remaining 5 percent through joint stock land banks.

Probably third in importance as a source of credit is the private capitalist, frequently a retired farmer or farmer-banker, who makes a regular practice of extending loans, or who is selling his farm and holding either a first or second mortgage against it. In 1924, about a sixth of the owner-operated farms in Idaho with mortgage debt had contracted the same with private individuals. In some sections it is common for the seller to take a mortgage for a substantial part of the sale price of the farm. Frequently a farmer will arrange for the purchase of a farm by obtaining a first mortgage loan from some financial institution, the former owner accepting a second mortgage for a substantial part of the purchase price. Local banks and other agencies provide a small amount of long term credit.

INTERMEDIATE AND SHORT TERM CREDIT. In the field of short term credit is to be found one of the more pressing financial problems of present day agriculture in Idaho. With the change in our agricultural program and the substitution of more highly specialized and concentrated products for the hay and coarser grains of the pre-war period and the replacing of scrub livestock by higher quality animals, the needs for short term advances both for production and marketing has become apparent.

About 40 percent of the total indebtedness of Idaho farmers in 1924 consisted of short term cash loans, a larger percentage than prevailed in any other Pacific Northwest state. It is in this field that the local banks have their largest influence in determining the agricultural credit situation. More than half of the advances made by banks in Idaho are for farming purposes, and of these the overwhelming majority consists of personal and collateral loans. In no other state in the group comprising Washington, Oregon, California, Nevada, Utah, Colorado, Arizona and New Mexico, does the share of agriculture in the credit extensions of local banks run so high.

In most states it is customary for the borrower to offer security in the form of a note with one or more endorsements. In Idaho this is relatively uncommon. Instead, security is likely to consist of a note without endorsements, a lien on the crops or a mortgage on livestock, or some other form of security.

With the setting up of the federal intermediate credit banks there has become available a new source of short term credits, of which the farmers of Idaho have as yet made relatively little use, altho Idaho obtained extensive advances from the War Finance Corporation, which may be regarded in a measure as a forerunner of the intermediate credit system. The following table indicates the extent of operations of the federal intermediate credit banks in Idaho:

TABLE 7—Intermediate Credit Bank Discounts in Idaho, September, 1926

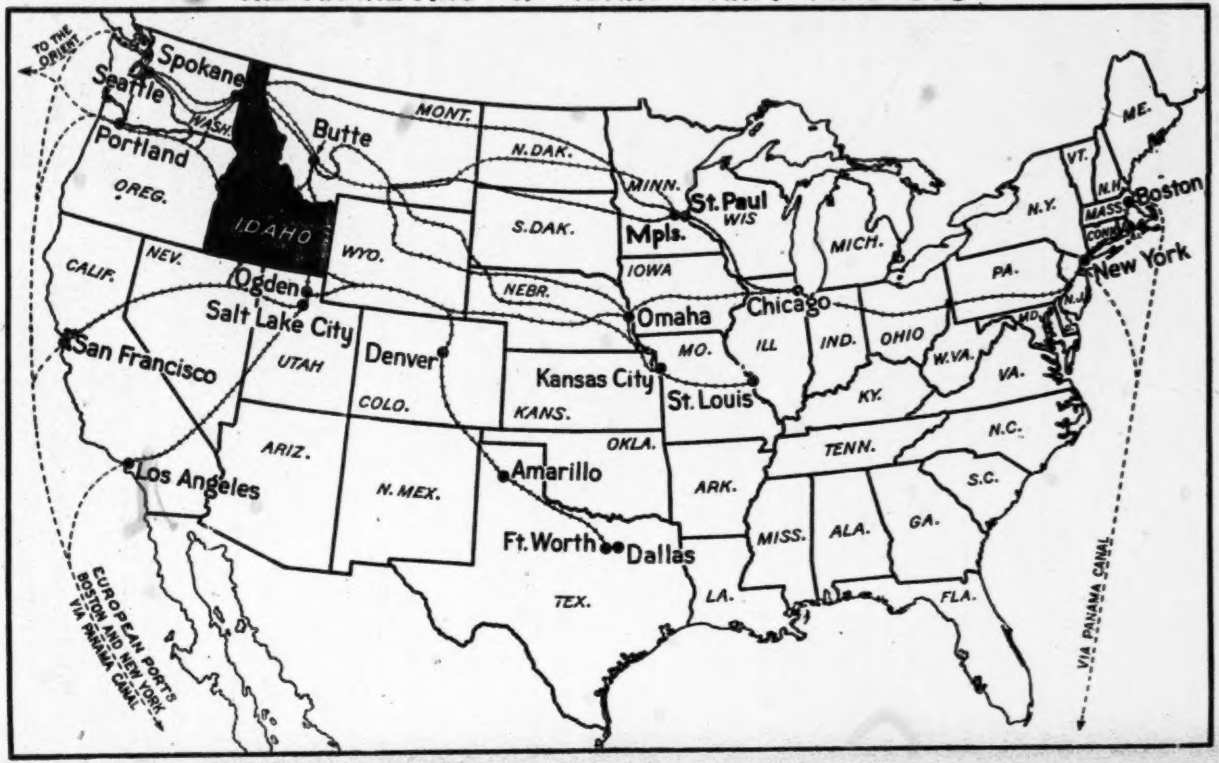
Region	No.	Sheep amount	No.	Cattle amount	No.	Total amount
Upper Snake counties	10	$ 81,254.87	21	$ 73,650.00	31	$154,904.87
Southeastern counties	11	73,119.21	8	18,150.00	19	91,269.21
South central counties	1	19,000.00	4	47,996.47	5	66,996.47
Western Snake counties	4	121,364.91	1	18,850.00	5	140,214.91
Palouse counties	1	17,500.00			1	17,500.00
The Panhandle			1	6,200.00	1	6,200.00
Lemhi County	3	27,200.00	6	44,400.00	9	71,600.00
State	30	339,438.99	41	209,246.47	71	548,685.46

It should be understood, of course, that the above represents discounts. In addition, direct loans have been made to cooperative marketing associations aggregating $112,937.21, of which $91,500.00 represents loans contracted since September 15, 1926. These advances to cooperative associations serve a total of 765 members and include such organizations as the Idaho Bean Growers Association, the Idaho Grimm Alfalfa Seed Growers Association, and the Idaho Wool Marketing Association.

It is not necessary in this report to examine the machinery set up under the Intermediate Credit Act. Suffice it to say that a study of the general credit situation in Idaho justifies an increased employment of these federal credit facilities. In the first place, approximately 45 percent of the present farm loans made by local banks are for terms of from three to six months; 30 percent for six months or more, and 25 percent for three months or less—terms, that is to say, for which the federal intermediate credit system was specifically created. The rates, moreover, at which such loans can be made by the latter, average from 4½ to 5½ percent, where such loans are extended to agricultural cooperative marketing associations handling such products as wool, beans, alfalfa and clover seed, hay, dried prunes and canned fruits and vegetables. To be sure the individual by himself cannot take advantage of this source of credit, but if associated with his fellows in cooperatives (where cooperation is warranted and practicable) he can materially reduce the rate he is paying at present. Finally, the newer type of agriculture being developed in Idaho with its emphasis on specialized and concentrated products, lends itself to the setting up of the sort of machinery necessary in taking advantage of this form of credit.

FIGURE VIII

THE TRANSPORTATION PROBLEM AS IT AFFECTS THE MARKETING OF IDAHO FARM PRODUCTS


TO THE ORIENT
Spokane
Seattle
WASH.
Portland
OREG.
IDAHO
Butte
MONT.
N. DAK.
S. DAK.
MINN.
St. Paul
Mpls.
WIS
MICH.
ME.
VT.
N.H.
MASS.
Boston
CONN.
N.Y.
New York
PA.
N.J.
MD.
CALIF.
NEV.
WYO.
Ogden
Salt Lake City
UTAH
IOWA
NEBR.
Omaha
Chicago
ILL
IND.
OHIO
W. VA.
VA.
San Francisco
Denver
COLO.
Kansas City
KANS.
MO.
St. Louis
KY.
N.C.
TENN.
S.C.
ARIZ.
N. MEX.
OKLA.
Amarillo
ARK.
Los Angeles
Ft. Worth
Dallas
MISS.
ALA.
GA.
TEX.
LA.
FLA.
EUROPEAN PORTS BOSTON AND NEW YORK VIA PANAMA CANAL
VIA PANAMA CANAL

Cooperative Activities

Generally speaking, the actual volume of business handled by cooperatives in Idaho is not as great as the volume handled in most of the other states. According to the 1925 agricultural census there are only six states whose sales and purchases thru farmers business organizations are less than in Idaho. It must be remembered too, that Idaho was one of the last states to be settled and that practically all of her agricultural development has taken place during the last 25 years. During this time Idaho has grown from a small and unimportant state agriculturally to one of the leaders as a source of certain of the nation's food supplies.

Handicaps confront Idaho producers in marketing their products cooperatively. In the first place, Idaho is located a long distance from her markets. It is necessary to ship the surplus products either to the Pacific coast or to middle western and eastern markets. A second difficulty is the high perishability of many of the state's important products. Fruits and vegetables constitute a great part of the agricultural surplus and they must be moved to market within a comparatively short time after harvesting, as they usually cannot be held long. The fact that Idaho does not possess seasonal advantages also is a handicap in the marketing of farm products. Most of our products are harvested during the period when the same products are harvested in other states. Consequently there is a tendency to oversupply markets, and this in turn tends to keep prices down. Idaho producers, because of strong competition from other states, are forced to seek markets over a wide area. All of these handicaps have necessitated highly organized market machinery to properly distribute Idaho's surplus. Many of the prevailing marketing agencies have nationwide organizations to handle their business. A cooperative agency representing only Idaho producers cannot afford to maintain large nationwide distributing machinery, and efforts to compete with private agencies handling some products have resulted in disappointment largely because of this factor, which results either in inadequate distributing machinery or high overhead on the volume of business.

In spite of the handicaps there has been marked progress in cooperative effort in Idaho but the fields of activity have been narrowed to those in which such effort has been demonstrated to be successful.

To show the present status of cooperation in Idaho the cooperative agencies have been divided into groups using commodities handled as a basis for classification. According to this survey there were more than a hundred associations in 1926. These are grouped as follows:

Potato marketing associations	2
Grain marketing associations	9
Poultry and egg marketing associations	2
Seed marketing associations	3
Wool growers marketing associations	2
Cooperative creameries	7

Fruit marketing associations	10
Cooperative in production	61
Miscellaneous cooperative stores, etc.	14
Total	110

This figure does not include a great many local pools where a number of farmers have pooled such products as wool, cream and seed.

Cooperation in Dairying

Cooperation among the dairymen of Idaho started with the establishment of the Nampa Cooperative Creamery.

The following table shows the growth in volume of business in Idaho cooperative creameries from 1921 to 1925.

TABLE 8—Idaho Cooperative Creameries, 1921-1925.

Year	Number of Creameries	Volume of Business
1921	5	$ 1,148,740
1922	5	1,522,939
1923	5	1,826,998
1924	5	2,150,438
1925	7	3,403,128

Cooperatives no doubt have helped to stabilize market prices for butterfat and have been a considerable factor in improving quality of butter manufactured. It is estimated by the managers of the various associations that cooperation among dairymen in Idaho has meant a net return of several cents per pound more than would have been received had they marketed under former conditions. During the past year several of the dairy cooperatives formed an organization to work out mutual problems and to further their common interests.

Cooperation in Marketing of Seed

There are three cooperative agencies now engaged in the handling of seeds. They are the Southern Idaho Bean Growers Association, the Idaho Grimm Alfalfa Seed Growers Association and the Idaho State Ladino Clover Seed Growers Association. The product handled by each association is indicated in the name. All of these agencies were organized during the last five years and are going concerns at this time.

The Grimm Alfalfa Seed Growers Association markets about 50 percent of the Grimm alfalfa seed grown in Idaho. It is estimated that the Southern Idaho Bean Growers Association markets about 25 percent of the total beans produced in the state. Ladino clover seed is a new crop to the United States. It was not known that this old European pasture clover would produce seed in America until a few years ago when it was produced successfully on the Minidoka tract. Since that time a few interested growers have organized a seed growers association for the purpose of marketing their seed cooperatively.

The volume of business transacted by the three active cooperative seed agencies for the past three years is shown below.

TABLE 9—Cooperative Seed Marketing Agencies

Year	Number of associations	Number of members	Volume of business
1923	3	510	$ 610,745
1924	3	673	1,024,470
1925	3	738	1,020,045

Cooperation in Wool Marketing

Both the Idaho Wool Growers Association and the Pacific Cooperative Wool Growers Association handle wool cooperatively in Idaho. Wool marketing by the Idaho Wool Growers Association is but a small part of the association's activities. Allied with the state association are 17 local organizations located thruout the state for educational and legislative activities in addition to that of marketing. The pooling of lambs is an important function. A great many Idaho producers belong to the Pacific Cooperative Wool Growers Association. The wool is pooled and sent to Portland, association headquarters.

The following table shows the volume of business transacted by the two associations in the last two years.

TABLE 10—Volume of Business, 1925-1926.

Year	Pounds Handled	Volume of Business
1925	1,207,000	$ 525,000
1926	2,449,000	685,000 (Est)

It is estimated by the managers of the two associations that net returns to the producers have been increased several cents per pound since they have been selling cooperatively. No adequate records are available to check this estimate.

Cooperative Poultry Marketing

Two successful cooperative poultry and egg marketing associations are operating in Idaho at the present time. The Idaho Egg Producers Association was organized in 1921 for the cooperative marketing of eggs. The association has members in eastern Oregon and all southern Idaho and has made a steady growth since its formation. Receiving and candling stations are maintained at Caldwell, Twin Falls and Pocatello. The principal markets for eggs handled by the association are Los Angeles, New York, Philadelphia, Detroit, Boston, Omaha, San Francisco, Butte and Spokane.

The Idaho Turkey Growers Association was organized in 1923 for the purpose of marketing turkeys cooperatively. The association grew from 43 members in 1923 to 988 members in 1925 and the number of turkeys handled has increased steadily each year. Selling is done on the sealed bid basis. Grades have been adopted. Buyers interested submit sealed bids on a stated day. The highest bidder handles the turkeys, paying cash for the pool at time of delivery.

The following table shows the membership, amount handled and volume of busines transacted by the two associations in 1924-1925.

TABLE 11—Members, Volume of Business, Idaho Turkey Growers Associatio

Year	No. Members	Cars Shipped	Total Volume of Business
1924	794	92	$ 392,500
1925	1800	.16	593,000

Cooperation in Potato Marketing

Potato marketing through cooperative agencies is confined to tw localities in the state, the Blackfoot Potato and Fruit Growers Association at Blackfoot and the Idaho Falls Potato Growers Association a Idaho Falls. Both organizations are going concerns and are showin growth in business. The volume handled by them, however, is only small proportion of the state production total.

Altho exact figures covering the two existing associations are no available, the following is an estimate of the volume of business for th last four years.

TABLE 12—Volume of Business, Potato Marketing Associations

Year	No. of Associations	Volume of Business
1922	2	$ 500,000
1923	2	550,000
1924	2	700,000
1925	2	1,300,000

Cooperation in Fruit Marketing

Eight active associations are engaged in the cooperative marketing o fruit. Four are located in northern Idaho and six confine their operations to the southwestern Idaho fruit district. One association confine its business to storing and packing. Membership in the various associ tions varies from 25 to 150 producers. Most of the agencies pool the produce and sell to the highest bidder. The volume of business tran acted is small in comparison with the total volume produced in the stat

Cooperation among fruit men in Idaho has been discussed for man years, large production and unstable markets having made growers fe the need for a more satisfactory marketing program. Cooperative ma keting of fruit in Idaho has not been so successful as cooperative marke ing of some other commodities. Several local fruit cooperatives ha failed in the last few years, the main reason being that producers failed live up to their contracts. Heavy competition on the part of outsi buyers also was a factor in the failure of these organizations. Accor ing to the best figures available at this time the volume of business tran acted by the eight active associations in the last three years is follows:

TABLE 13

Year	Number of Associations	Volume of Business
1923	8	$1,200,000
1924	8	400,000
1925	8	650,000

It will be noticed that the volume of business was much greater in 1923 than the two following years. This was due largely to the large production and prevailing prices. Membership in the existing agencies has remained quite constant so volume of business is in proportion to production and prices received.

Cooperative Grain Organizations

Nine farmers cooperative grain agencies are engaged in active business. All of them are located in northern Idaho and with one or two exceptions may be considered successful going organizations. Most of the stockholders in these concerns are producers. Stock dividends instead of patronage dividends are paid by most of the agencies. As in the case of fruit cooperatives, the membership remains fairly constant from year to year and volume of business is dependent upon production and market prices. It is not possible to give exact figures on business handled as all of the organizations have not reported. The volume for the last three years is estimated as follows:

TABLE 14

Year	Number of Associations	Volume of Business
1923	9	$2,250,000
1924	9	2,365,000
1925	9	2,443,000

Cooperative marketing of grain had a severe setback with the failure of the Northwest Wheat Growers Association three years ago. Contracts to deliver to the association had been signed by producers all over Idaho and adjoining states. Large overhead expenses of the association, due to low production and unsatisfactory results, are considered responsible for failure of the organization.

Volume of Business of Cooperatives

The table below indicates the combined volume of business transacted by the cooperative marketing associations in Idaho during 1923-1924 and 1925.

TABLE 15

	1923		1924		1926	
Kind of Ass'n	No	Volume	No.	Volume	No.	Volume
Creameries	5	$1,826,998	5	$2,150,438	7	$3,403,128
Seed associations	3	610,745	3	1,024,470	3	1,020,045
Wool marketing ass'n	2		2	525,000	2	685,000
Poultry & egg mark'g	—	———	—	———	—	———
associations	2	———	2	392,500	2	543,000
Potato mark'g ass'n	2	550,000	2	700,000	2	1,300,000
Fruit mark'g ass'n	8	1,200,000	8	400,000	8	650,000
Grain marketing ass'n	9	2,250,000	9	2,365,000	9	2,443,000
Cooperative stores, etc.	14	1,500,000	14	1,500,000	14	1,500,000
	45	7,937,743	45	9,057,408	45	11,544,173

Financing Cooperatives

A new incentive has been offered to farmers for the formation of cooperative marketing associations thru the medium of the Federal Intermediate Credit Bank which already has proven itself a benefit to cooperative marketing associations by making loans to them at a low rate of interest, the cooperative using warehouse receipts as collateral security for the loans. In this manner cooperatives are able to advance to the members 70 or 75 percent of the value of the crop at the time of delivery at the warehouse. This plan virtually enables the member to finance himself while his association is moving the crop to market in an orderly manner.

Failures Among Cooperatives

The preceding sections show cooperation in its present status. However, cooperative marketing in Idaho has had some severe "set-backs" with the failure of several cooperative enterprises in the last five years. Among these may be mentioned one state wide seed marketing association, one state wide potato growers marketing agency, the Northwest Wheat Growers Association, and two fruit and vegetable growers associations. In addition, several farmer-owned stores and other smaller organizations have gone out of business. Inquiries into the reason for these failures indicate that they were due to a number of factors. Not enough volume to withstand outside competition and disloyalty on the part of members are given as the causes for one failure. Insufficient volume of business and too much overhead expense were the causes of another. Top heavy central management and poorly managed branches coupled with poor business management and unsound business principles are reported as causing the downfall of two other organizations. All of the above concerns were forced to meet heavy competition from private agencies during their period of operation. This may have tended to break the morale of members and hastened the failure of the marketing agencies. Other cooperatives have profited by the bitter experience of now extinct organizations. They are giving more attention to finances and are realizing that big business cannot be conducted on a "shoestring." Evidence of improvement in business management is shown in replies to the question, "Do you have a sinking fund?" Most of the active associations answered "Yes". Undoubtedly, the fact that cooperatives are building up a surplus for the so-called "rainy days" will tend to lessen the number of failures in the future.

Cooperation in Production

Another form of cooperation in Idaho deserves special mention, cooperation in production. Cow testing associations, bull associations, grazing associations, etc., are classed as cooperatives in production. Idaho ranks first of all the states in number of farmers belonging to bull associations and number of cows in associations, being surpassed only by Pennsylvania in number of bulls and number of associations. At present there are 33 associations with a total of 805 members. There are 159 purebred bulls which serve 1461 cows. Idaho ranks sixteenth in cow testing association work. The state stands thirty-sixth, however, in number of cows on test. There are 10 active associations with 13 testers, who test 307 herds of 3850 cows monthly. Seventeen grazing associations are allied with the Idaho Wool Growers Association. These agencies engage in improving of range conditions and other educational work. Recently the Idaho Turkey Breeders Association was organized in southwestern Idaho for the purpose of cooperating in the breeding of purebred turkeys, and also to further the interest of bee keepers, keep down disease, and engage in activities of an educational nature.

FARM ENTERPRISES OF IDAHO

Utilization of Agricultural Lands

Idaho has a total land area of more than 53,000,000 acres. Of this total nearly 23,000,000 million acres are in forest land, a little over 8,000,000 acres are in farm lands, while the remainder includes the public domain, rough stony land, scab land, and so on. The rapid development of agriculture is shown in the following table.

TABLE 16—Land in Farms, Improved Land and Cropped Land, Idaho, 1870-1925*

Census year	No. of farms	Land in farms (acres)	Improved land (Acres)**	Cropped land (acres)	Percentage of increase		Percent of land area in farms	Percent of farm land	
					Improved land	Cropped land		Improved	Cropped
1925	40,592	8,134,484	4,078,076	2.581.567	-10.6	-8	15.2	50	31.7
1920	42,106	8,375,873	4,511,873	2,787,836	62.5	65	15.7	54	33.3
1910	30,807	5,283,604	2,778,740	1,690,800	96.	81	9.9	53	32.
1900	17,471	3,204,903	1,413,118	936,159	133.	301	6.0	44	29.2
1890		1,302,256	606,362	233,675	207.	272	2.4	47	18.
1880		327,798	197,407	62,713	642.		0.6	60	19.
1870		77,139	26,603				0.1	35	

** Basis for 1925 figure changed from previous census. The 1925 figure includes total crop land and plowable pasture as reported in the 1925 agricultural census. The decrease in improved land between 1920 and 1925 probably came in dry farming sections which were brought into use during the war period by attractive grain prices. Lower prices and unfavorable conditions since 1920 have no doubt been responsible for the abandonment of some land of this class.

* Federal census data.

FIGURE IX

DISTRIBUTION OF CROP ACREAGE
IDAHO-1924

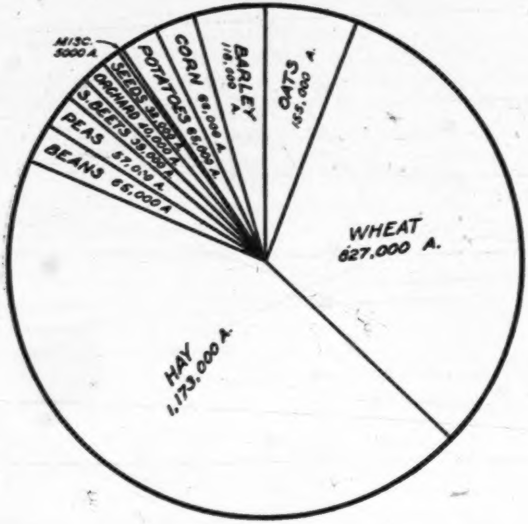
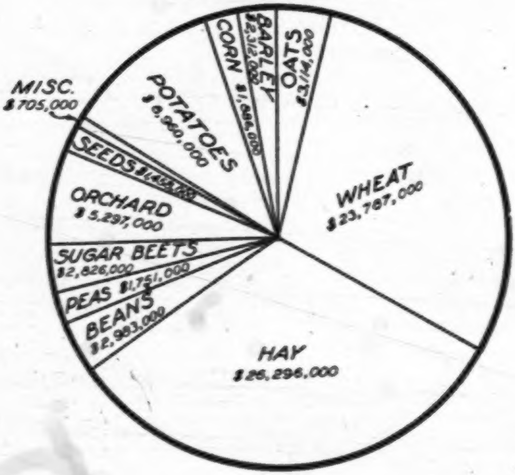


FIGURE X

VALUE OF IDAHO CROPS
1921-1925 AVERAGE



About half of the total land in farms is improved and about one-third is cropped. Of the total cropped in the state nearly one-half is under irrigation.

The importance of the various crops from the standpoint of acreage is shown in Figure 9 for 1924.

TABLE 17—Numbers and Relative Importance of the Different Classes of Livestock in Idaho—1910-1920-1925.(1)

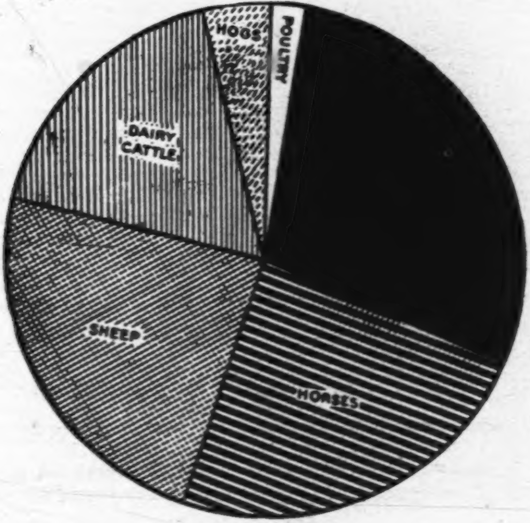
Class of Stock	1910		1920		1925	
	Number (head)	Percent of total Animal units	Number (head)	Percent of total Animal units	Number (head)	Percent of total Animal units
All dairy cattle	453807	11.1	202391	13.3	605604	17.5
All beef cattle ..		25.5	512512	29.8		29.0
Sheep	3010478	39.4	2356270	27.3	1745769	23.5
Horses and mules	201808	19.6	300858	24.7	240391	23.7
Swine	178346	3.2	240030	3.4	276323	4.2
Poultry	1053876	1.2	1711884	1.5	2028805	2.1
Total animal units	1131891	100	1417926	100	1170944	100

(1) One animal unit considered equivalent to one horse, one cow, 5 hogs, 7 sheep, 100 poultry.

Value of Crops

Figure 10 shows the 1921-1925 acreage gross value of all crops produced in the state. A five year average eliminates the effects of value

FIG. XI—Percentage of Total Animal Units in Each Class of Livestock in Idaho, Jan. 1, 1926



fluctuations in a single year. The hay crops rank first in value, wheat second, potatoes third, and orchard, crops, fourth.

Table 17 shows the changes in numbers of livestock by census year and the shifts in the relative importance of each class.

Figure 11 illustrates the livestock distribution as of January 1, 1925.

The Wheat Situation

Wheat always has been one of the most important cash crops in Idaho. Estimates as early as 1882 placed the wheat acreage at 40,625, and a constant increase took place thereafter (See Table 18.) The largest wheat acreage estimated at 1,123,000 acres was planted in 1921. This decreased for several years but recovered slightly again in 1925, when 926,000 acres were grown.

TABLE 18—All Wheat-Acreage, Yield, Production, Farm Values, Idaho, 1882-1925.

Year	Acreage	Yield per acre (bushels)	Production (bushels)	Farm price (cents)	Farm value Dec. 1 (dollars)	Value per acre (dollars)
1882	40,625	16.0	650,000	140	910,000	
1890	142,153	24.2	3,440,103	50	1,720,052	
1900	149,261	20.8	3,104,629	46	1,428,129	
1910	472,000	22.6	10,658,000	72	7,674,000	16.25
1911	517,000	30.7	15,860,000	66	10,468,000	20.24
1912	510,000	28.6	14,566,000	66	9,613,000	18.90
1913	510,000	27.6	14,094,000	63	8,879,000	17.40
1914	549,000	26.2	14,362,000	87	12,495,000	22.78
1915	670,000	28.0	18,730,000	80	14,984,000	22.40
1916	634,000	23.8	15,071,000	146	22,004,000	34.73
1917	756,000	20.3	15,332,000	182	27,904,000	36.98
1918	950,000	21.3	20,275,000	192	34,643,000	40.95
1919	1,050,000	18.0	19,075,000	205	39,103,000	36.88
1920	1,050,000	22.0	23,600,000	125	29,500,000	27.50
1921	1,123,000	24.0	26,952,000	72	19,405,000	17.28
1922	1,112,000	21.5	24,275,000	90	21,847,000	19.35
1923	1,052,000	28.6	30,115,000	80	24,092,000	22.40
1924	827,000	19.4	16,059,000	131	21,037,000	25.40
1925	926,000	28.1	26,042,000	125	32,553,000	35.15
1916-1925 Average	948,000	22.9	21,679,600	125	27,207,900	29.66
1921-1925 Average	1,008,000	24.5	22,468,860	96	23,786,800	23.92

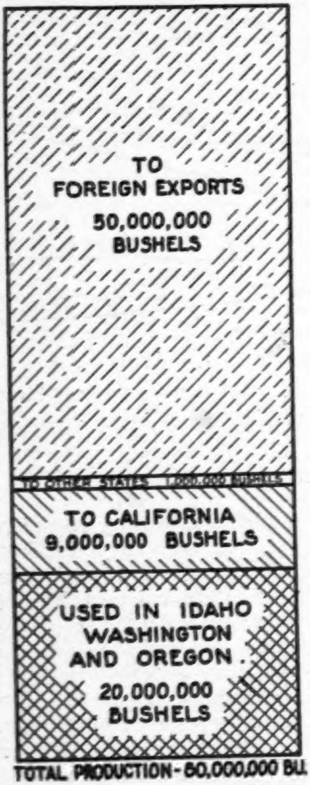
Although Idaho produces but from 2 to 4 percent of the country's total wheat crop, nevertheless, in the particular varieties represented (white wheats) the section produces from 14.6 to 18.1 percent of the total United States crop. In fact, Idaho, Oregon, Washington and California are producing about three-fourths of all the white wheat raised in the country.

During the past few years much of this wheat has found a market in foreign countries, especially in Europe and the Orient. A certain amount is also being shipped to the south each year. The accompanying table shows the trends in shipments of wheat and flour out of the Pacific Northwest from 1909-13 to 1924.

Approximate disposition of the entire Northwest crop is shown graphically in Figure 12.

FIGURE XII

APPROXIMATE DISPOSITION OF THE PACIFIC NORTHWEST WHEAT CROP



Nearly two-thirds of the wheat crop is absorbed in foreign markets, while most of the balance is consumed at home or shipped to California.

As long as the United States is a surplus wheat-producing country, the domestic price is related to the world price. This means competition with such countries as Argentina, Australia, Canada, India, and Russia. Continued expansion of wheat-growing has taken place in several of those countries. Large areas of virgin land have been put under cultivation during the past 10 or 15 years, and this probably will continue in the future, just as expansion took place west of the Mississippi several decades ago. On the other hand, there are good reasons for believing that we shall continue to remain an exporter of soft White Pacific wheat, and as far as our domestic market is concerned there is a special demand for good quality wheat of low protein content for blending purposes, and especially for making flour for biscuit, crackers, cakes and pastry. Premiums have been paid at certain times for this special class of wheat.

Farmers in Idaho who are contemplating a change in their wheat acreage should ask themselves this question: "Will the net income of my farm be at least as large as it would be if I substituted some alternative for wheat in my cropping system?" The possible alternatives will vary, of course, depending upon the section of the state. Where several alternatives exist it will be easier to avoid the consequences of a sharp price decline in the price of wheat.

TABLE 19—Trend of Shipment of Wheat and Flour by Water and Rail from Pacific Northwest*

(Figures in Millions of bu.)

To		DOMESTIC			FOREIGN			
		Calif.	Other	Total	Europe	Orient	Other	Total
Wheat	1909-1913	6.9	.0	6.9	8.5	2.3	.5	11.3
	1920-1923	.8	.1	.9	19.8	9.6	1.2	30.6
	1923-1924	2.3	.4	2.7	14.5	17.5	.0	32.0
Flour	1909-1913	3.8	.0	3.8	.1	9.0	1.3	10.4
	1920-1923	5.2	.7	5.9	3.6	11.6	1.3	16.5
	1923-1924	7.4	.8	8.2	.8	18.0	5.9	24.7
Total	1909-1913	10.7	.0	10.7	8.6	11.3	1.8	21.7
	1920-1923	6.0	.8	6.8	23.4	21.2	2.5	47.1
	1923-1924	9.7	1.2	10.9	15.3	35.5	5.9	56.7

* The data cited are adapted from a thesis by J. B. Watkins, entitled "The Development of the Export Market for Wheat and Flour of the Pacific Northwest," and from federal reports.

The Sugar Beet Situation

The United States Industry

The United States produces a relatively small percentage of the sugar it consumes. The estimated production of refined sugar in the United States for the year ending June 30, 1925, was 2,317,000,000 pounds. The total amount of sugar available for consumption in that year was 12,874,000,000 pounds. (See Table 20). Hence domestic production amounted to about 18 percent of total consumption. Even including the duty-free imports of sugar coming from insular possessions, American manufactured sugar made up only slightly more than 40 percent of total consumption.

Table 20 also shows that the United States has exported a considerable amount of refined sugar each year despite the very large imports. Prior to the World war Europe relied largely upon beet sugar. The sudden change to cane sugar found the importing countries of Europe lacking in adequate cane sugar refineries. Consequently much of the cane sugar destined for European consumption has been refined in the United States and appears in the trade statistics as exported from the United States to Europe. Figures on the net amount of sugar available for consumption each year seem to indicate that per capita consumption has been increasing, especially since 1920. The average per capita for the period, 1914 to 1920, was 86 pounds, while the average for the period, 1921 to 1924, was 106 pounds.

TABLE 20—Sugar: Production, Trade and Supply Available for Consumption in Continental United States, 1914-1921

Year beginning July	Production (beet & cane) (1000 Lb.)	Brought in from insular Poss. (1000 Lb.)	Imports as sugar (1000 Lb.)	Domestic exports as sugar (1000 Lb.)	Exports in other forms (100 Lb.)	Available for total (1000 Lb.)	Consumption per capita (pounds)
1914	2045656	2196628	5059926	605283	27171	8669756	87.9
1915	2156813	2204114	5378134	1765728	24427	7948906	79.4
1916	2386213	2407876	5055968	1353505	58422	8438130	83.2
1917	2136875	1951368	4689632	610858	92262	8074755	78.5
1918	2204842	2147888	5599924	1137133	73494	8742027	83.8
1919	1806120	1951470	7625910	1553005	196772	9633723	91.1
1920	2693623	2152684	6456558	638178	178983	10485704	97.9
Average 1914-1920	2204306	2144575	5695150	1094813	93076	8856143	86.0
1921	2849453	2681734	7881554	2170698	62795	11179248	103.0
1922	2042720	2470098	8136411	824393	25137	11799699	107.3
1923	2223796	2549741	6873909	305767	29303	11312376	101.6
1924	2316924	3291751	7856896	546941	44672	12873964	114.1

• U. S. D. A. Yearbook, 1920-1925.

The net sources of sugar supply of the United States, according to the United States Department of Agriculture, for the years 1918-1922 were approximately as follows:

Source	*Percent*
Cuba (cane)	50
Domestic (beet)	18
Hawaii (cane)	11
Porto Rico (cane)	8
Domestic (cane)	5
Philippines (cane)	3
Other sources	5

The percentage supplied by Cuba and other countries has increased somewhat since 1923.

Production in the United States

Idaho produces about 5 percent of the total beet tonnage of the United States. The five-year average (1921 to 1925) was higher in the states of Nebraska, Colorado, and Utah than in Idaho. Nebraska averaged the highest with 11.92 tons per acre. Ohio, Michigan, Wisconsin and California averaged lower than Idaho. The United States five-year average yield was only three-tenths ton per acre lower than the Idaho average being 9.91 tons in the former and 10.2 tons in the latter.

PRICES. Table 21 shows the average farm prices per ton in Idaho compared with other important producing states. The Idaho average for the period 1919 to 1924, was higher than that of Utah, Colorado, and Nebraska, but lower than that of Michigan and the United States as a whole. The difference, however, is not more than a few cents in any case. Differences in a particular year have been greater than differences in the average of several years.

TABLE 21—*Beets: Price per Ton Received by Producers, 1919-1924

Year	Idaho	Utah	Colorado	Nebraska	Michigan	United States
1919	$ 11.00	$ 10.97	$ 10.85	$ 10.90	$ 12.52	$ 11.74
1920	12.10	12.03	11.88	11.96	10.08	11.63
1921	6.00	5.47	6.37	6.59	6.10	6.35
1922	8.28	7.96	7.79	7.79	7.22	7.91
1923	8.57	8.28	8.15	8.10	9.38	8.99
1924	7.19	6.92	7.59	7.53	8.85	7.95
1919-24 Ave.	8.86	8.61	8.77	8.81	9.03	9.09

*U. S. D. A. Yearbook, 1925.

Production in Idaho

The sugar beet industry in Idaho was started about 1904. The two oldest beet factories are located at Sugar City, Madison County, and

Idaho Falls, Bonneville County. Other factories are located at Rigby, Jefferson County; Shelley and Blackfoot, Bingham County; Paul, Minidoka County; Burley, Cassia County; Twin Falls, Twin Falls County; and Whitney, Franklin County.

Nearly three-fourths of all the beets produced in the state are grown in southeastern Idaho. This beet producing district includes the Upper Snake River Valley beginning at Marysville and extending to Pocatello with a strip toward Aberdeen and small areas at Arco, Moore, and Darlington. The beet districts extend into the irrigated portions of Franklin, Bannock and Oneida counties and a small area comprising 300 acres in Bear Lake County near Montpelier.

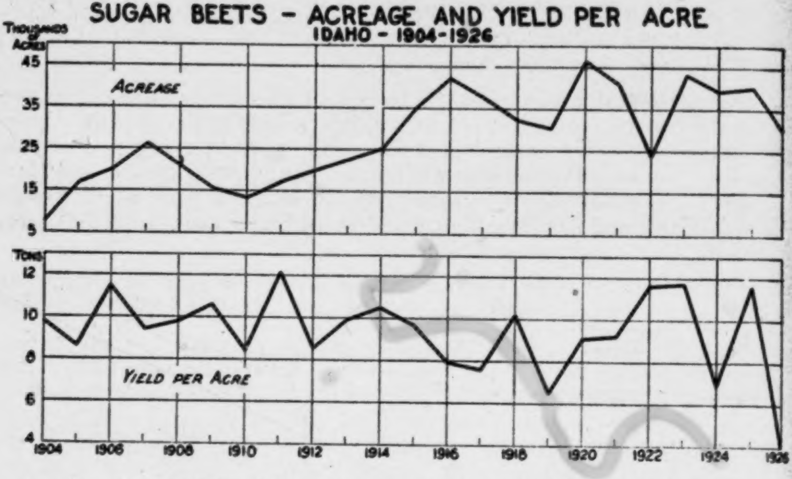
In the summer of 1926 about 70 farm survey records were gathered in Franklin County. These records are summarized in Table 22.

TABLE 22—Beets: Average Acreage, Production, Cash Receipts and Expenditures, and Net Receipts per Farm, by Type of Farm, Franklin County, 1925

Item	Unit	Dry Irrigated	Irrigated	All farms
Farms	No.	60	10	70
Average size of farms	A	290.4	116.2	265.5
Farm reporting beets	No.	18	9	27
Acres per farm	A	4.0	18.3	8.8
Percent of crop acreage. 1925	Percent	3.6	21.7	6.2
Yield per acre	Tons bu.	15.6	14.3	15.4
Production per farm	Tons bu.	62.1	261.3	92.0
Value per acre	$	95.16	87.23	94.0
Value per farm		377.2	1594.	551.0
Farms reporting sales	No.	18	9	27
$150—499	No.	4		4
$500—999	No.	3	1	4
$1000—1999	No.	7	6	13
$2000 and over	No.	4	2	6
Beets sold per farm	Tons	62.1	261.3	92.0
Receipts from beet sales	$	377.2	1594.0	551.0
Percent of crop receipts	Percent	17.7	58.5	23.5
Percent of farm receipts	Percent	10.3	44.3	15.2
Cash expenses on beets	$	66.7	347.7	106.8
Seed	$	7.8	22.8	9.94
Water	$	1.7	15.4	3.66
Thinning, etc. per acre	$	57.20	309.50	93.2
Percent of beet sales	Percent	17.8	21.8	18.4
Receipts above cash expense	$	310.5	1246.3	444.2
Receipts above cash expense per acre	$	77.62	69.24	76.42
Cash expense per acre	$	14.30	17.20	14.71

The average yield per acre on these farms in 1925 was estimated at 15.4 tons, representing a value of $94.00 per acre. Much of the work was done by the farmers themselves as the cash expense per acre amount-

FIGURE XIII



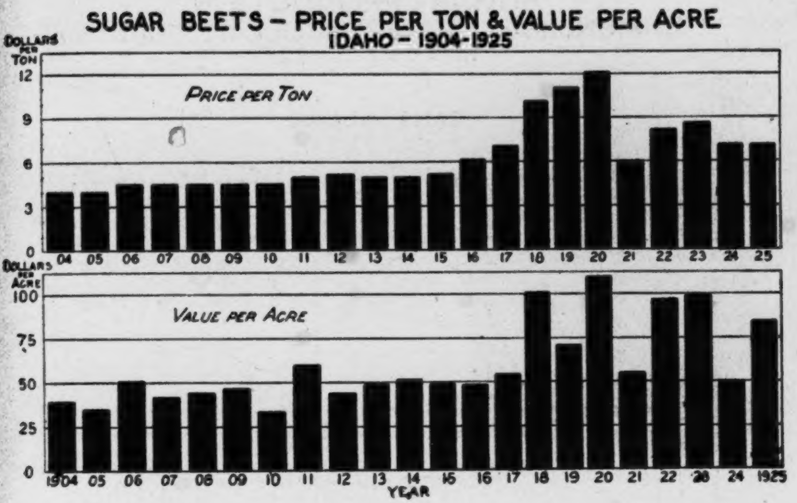
ed to less than $15.00. This left an estimated net balance of $76.42 per acre of cash receipts above cash expense. On the irrigated farms beets provided 44.3 percent of the total farm income but only 15.2 percent of the total on all farms.

It is of course obviously impossible to select crops in which no conflict exists, but on a well balanced farm this conflict will be reduced to a minimum. Where there is a wide variety in choice of suitable enterprises this problem is not as difficult as it is where choice is limited. A maximum utilization of labor can be effected by growing some beets, peas, potatoes, and small grain along with alfalfa. Beets, peas, and grain can be planted first and the potato crop a little later. Some conflict exists between potato and beet cultivation and also between cultivation and haying. At harvest time the peas and small grains come first, running through August and the early part of September. The potato crop matures next, and the harvest of this crop can be completed before beet harvest begins. Beet harvest then continues until about the first of November, thus allowing time for fall plowing before winter begins.

A good supply of irrigation water is essential for best growing. Peas and grain do not require irrigation water after the early part of August, while irrigation for beets is often carried on until the first of October. Potatoes are somewhat intermediate between peas and beets in this respect, requiring more water than peas but less than beets.

The outlook for the sugar industry in the United States and in Idaho is influenced by the outlook in countries that export sugar to the United States.

FIGURE XIV


SUGAR BEETS – PRICE PER TON & VALUE PER ACRE
IDAHO – 1904-1925

There has been a considerable change in the chief sources of world supply of sugar. In 1912-13, 9,000,000 tons, or 45 percent of the world's sugar supply, was produced in continental Europe. At that time considerable quantities were exported from Europe to the United States and the Near East. Following the war in 1919-20, European production dropped to less than 3,000,000 tons, or 17 percent of the world production. The preliminary estimates for 1925, however, show that beet sugar production again is trending upward, Europe having produced about 29 percent of the world's total. Germany is again on an export basis.

The sources of the net sugar supply of the United States for the year 1918-1922, as computed by the United States Department of Agriculture, are shown in Table 20.

Sugar Prices

Average yearly wholesale prices of granulated sugar per pound in New York are shown in Table 23. The actual price is also expressed in terms of adjusted price or purchasing power, computed by dividing actual price each year by the United States Bureau of Labor "all commodities" index number, indicating that the trend in the purchasing power of sugar in terms of all commodities has been downward since 1900.

Despite this downward trend the important cane producing countries have increased their production enormously in recent years. Figure 15 shows graphically the production of sugar in the important beet and

FIGURE XV

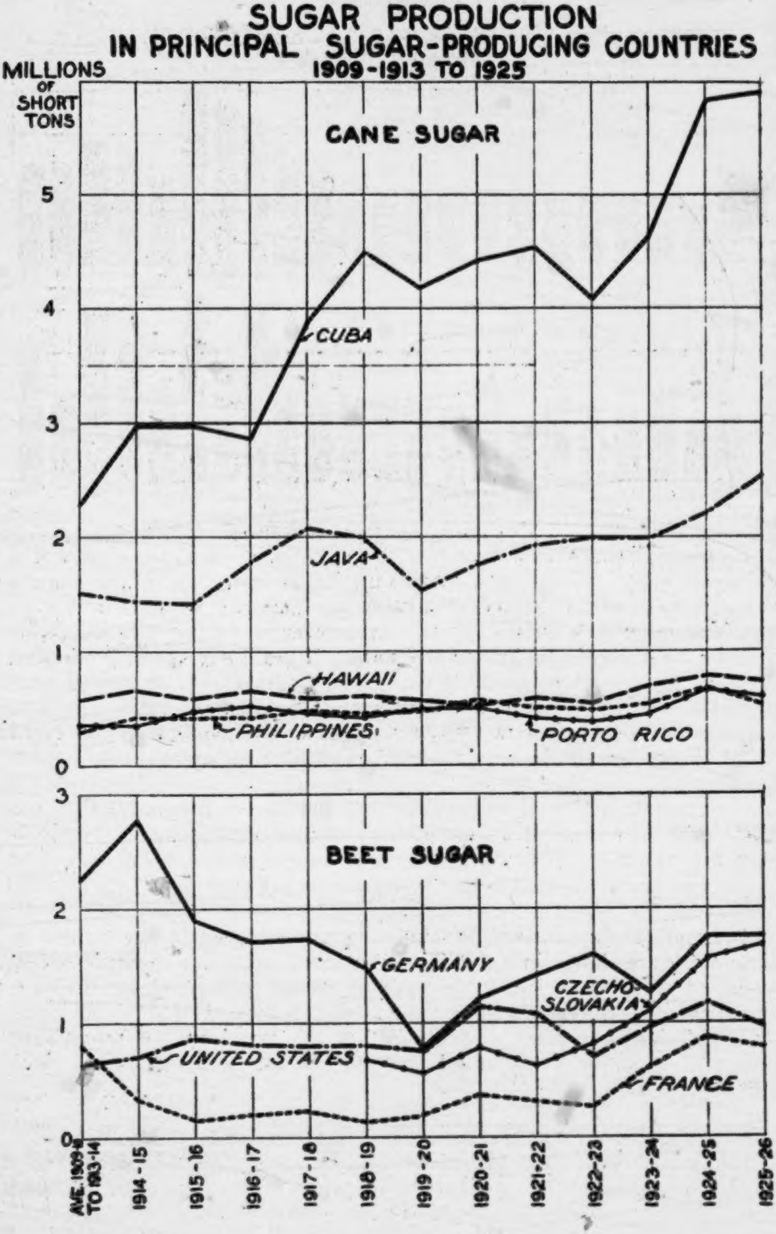

SUGAR PRODUCTION
IN PRINCIPAL SUGAR-PRODUCING COUNTRIES
1909-1913 TO 1925
MILLIONS OF SHORT TONS
CANE SUGAR
5
4
3
2
1
0
CUBA
JAVA
HAWAII
PHILIPPINES
PORTO RICO
BEET SUGAR
3
2
1
0
GERMANY
CZECHO-SLOVAKIA
UNITED STATES
FRANCE
AVE. 1909-13 TO 1913-14
1914-15
1915-16
1916-17
1917-18
1918-19
1919-20
1920-21
1921-22
1922-23
1923-24
1924-25
1925-26

TABLE 23—Sugar, Granulated: Average Yearly Wholesale Price per Pound, New York*

Calendar year	Actual price	Adjusted price**	Calendar year	Actual price	Adjusted price**
	$	$		$	$
1900	.053	.065	1914	.047	.048
1901	.050	.063	1915	.056	.055
1902	.045	.0535	1916	.069	.054
1903	.046	.0535	1917	.077	.0435
1904	.048	.056	1918	.078	.040
1905	.053	.0615	1919	.090	.044
1906	.045	.0505	1920	(1) .155	.0685
1907	.047	.050	1921	.062	.042
1908	.049	.0545	1922	.059	.040
1909	.048	.0495	1923	.084	.0545
1910	.050	.050	1924	.074	.049
1911	.053	.057	1925	.055	.035
1912	.050	.051	1921-25	—	—
1913	.043	.043	Average	.067	.0441

*U. S. D. A. Yearbook, 1923-1925.
** Adjusted by U. S. Bureau Labor statistics, "All Commodities" index.
(1) Based on price estimate—Bureau of Labor statistics.

cane producing countries. Beet sugar production has trended up since the war but not nearly as rapidly as cane sugar.

The Sugar Tariff

Among the important factors influencing sugar production in the United States is the tariff. Rates have been levied on imported sugar since the early days of the republic. The question of this tariff has lately become very complicated due to conflicting interests of producers, refiners and consumers, both at home and in insular territories and protectorates. In 1902 the import duty on sugar from the Philippines was fixed at 75 percent of existing foreign rates, but since 1913 sugar actually produced in the Philippines has been admitted free of duty. In 1903 the import duty on sugar from Cuba was reduced to 80 percent of that from other foreign countries.

In the early days sugar was considered a luxury and the sugar tax was designed for additional government income. The import duty gradually became a traditional part of the protective policy. In general, all administrations have acted on the presumption that protection was necessary for the survival of the industry. Sugar production, however, has not increased as rapidly in the United States as in some of the larger producing countries like Cuba and Java, and the proportion of imports to total available supply for consumption still remains very high. In general, climatic and soil conditions in the United States are not the important factors which limit extension of the sugar industry. Labor supply, price, terms of contract, crop competition, and the assurance of protection are among the important factors which govern sugar production in our country. The American farmer who is accustomed to the use of labor-saving machinery is frequently reluctant to perform the large amount of hand labor necessary for sugar beet production.

The Bean Situation

The bean industry in Idaho has increased greatly during the past 10 years. The average acreage for the three years, 1917-1919, was 36,000 as compared to 68,000 acres in 1924-1926. Similarly the average production of the earlier three years was 592,000 bushels whereas the average production of the latter three years was 1,391,000 bushels, or about two and one-half times more.

During the five years, 1920-1925, beans averaged 4 percent of the total value of all crops and fruits of Idaho.

TABLE 24—Beans: Acreage, Production, Yield, Prices, and Values per Acre, Idaho

Year	Acres (3)	Production (bushels) (3)	Yield per acre (bushels) (3)	Price per bushel December 1 (3)	Value per acre (5)
1906	1915 (1)	33816 (1)			
1917	30000 (2)	522000 (2)	17.4 (2)	6.70 (4)	116.58
1918	43000	860000	20.0	6.00	120.00
1919	36000	396000	11.0	4.20	46.20
1920	25000	288000	11.5	3.04	34.96
1921	18000	216000	12.0	2.95	35.40
1922	26000	364000	14.0	3.40	47.60
1923	45000	990000	22.0	3.60	79.20
1924	65000	1268000	19.5	4.10	79.95
1925	72000	1584000	22.0	2.70	59.40
1926	86000*	1320000*	20.0		
Average 1922-1926			19.5		

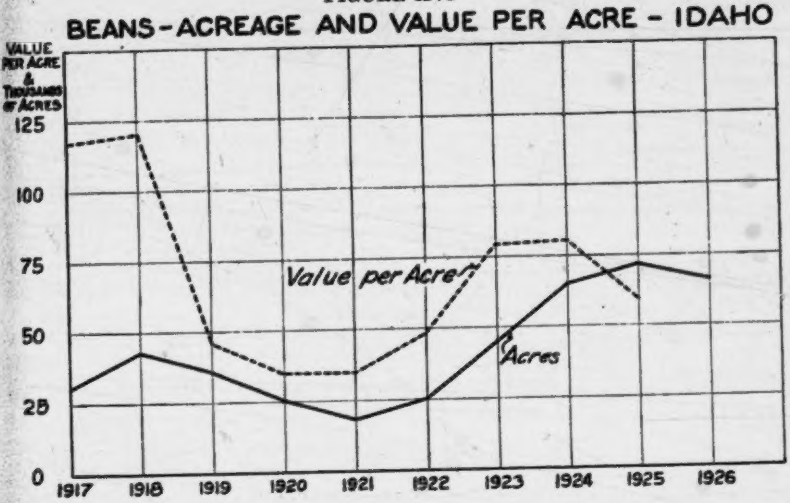
(1) Federal census.
(2) Annual reports, Idaho Bureau of Markets.
(3) Idaho state statisticians reports.
* Preliminary.
(4) Interpolated between Nov. 15 and Dec. 15 Idaho price quoted in the Monthly Crop Reporter, U. S. D. A.
(5) Yield per acre times price per bushel, December 1.

Production has increased faster than acreage because of the increase in yield per acre. Table 24 shows that the average state yield per acre over the five years, 1917 to 1921, was 14.4 bushels, and over the five years, 1922 to 1926, was 19.5 bushels an increase of 35.4 percent. A large part of this increase is due to the more recent practice of growing beans after alfalfa rather than as a substitute for alfalfa.

For the state as a whole, beans have had an average value per acre of $60.00 over the five years, 1921 to 1925. This figure however, is not comparable with values per acre during the war years because all prices were then inflated.

Figure 16 shows that changes in the value per acre of beans in Idaho usually forecasts opposite changes in the number of acres planted the following year. That is, if the value per acre was higher this year than last, bean growers of Idaho usually plant more beans next year, and vice versa.

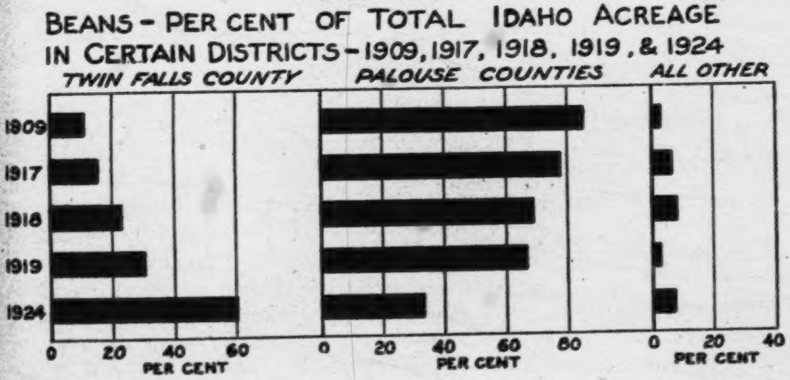
FIGURE XVI



Regional Aspects

The relative importance of the bean producing sections of the state is indicated in Figure 17 for the years 1909, 1917, 1918 and 1924.

FIGURE XVII



The development of the industry since 1917 has been mainly in south-central Idaho. There has been a shift from the Palouse counties to Twin Falls County. No figures on the production of beans by county were collected in the 1925 census but since the acreage in Twin Falls County in 1924 was 39,204 and the average yield was 23.1 bushels, we may estimate the production of that county at 882,500 bushels, or 70 percent of the total state production of 1,268,000 bushels in that year.

Marketing—Destinations

Table 25 shows the distribution of Idaho beans. The Middlewest has been our largest market but over the past three years has been decreasing in relative importance. Our second largest market has been the western states and over the past three years it has been increasing in relative importance. The third most important market area has been the southern states with the Southwest taking about the same proportion of total shipments. However, while the southern states have not shown much change, the southwest states have been increasing the proportion of the Idaho crop taken.

TABLE 25—Percentage Distribution by District of Idaho Bean Shipments in 1923, 1924 and 1925*

Year	Total number cars traced		Percent of total billed to following districts (state groups)					
	Number	Percent	Eastern	Southern	N. Central	Midwest	S. W.	West
1923	131	100	0	14.9	11.9	56.0	9.7	7.6
1924	125	100	0	16.8	4.0	39.2	19.2	20.8
1925	117	100	6	13.7	13.7	26.2	11.1	27.4
Average			2	15.1	9.9	41.1	13.3	18.6
Trend	—	—	Up	—	Up	Down	Up	Up

* Based on P. F. E. records.

Since beans are non-perishable and are of fairly high specific value they can be transported almost as readily as wheat and other grains. We may, therefore, assume that the bean market is national if not world wide in its scope. It is not the production of beans in Idaho or even in states shipping to Idaho markets which determines the Idaho price. The determining factors are the total United States production and the world bean situation.

Altho the market for beans is probably national or international in scope, there are markets for several kinds of beans. The price of white beans need not necessarily change in the same direction as the price of lima beans or colored beans of various kinds. Since 97 percent of the beans produced in Idaho are white beans this discussion will be confined largely to that variety.

Table 30 indicates the production of white beans in Idaho and other principal bean-growing states.

TABLE 26—White Beans: Production (Excluding White Kidney) in Important States 1920-1925

		Production in thousands of bushels.					
	Rank	1920	1921	1922	1923	1924	1925
		(1)	(1)	(1)	(2)	(3)	(3)
Michigan	1	3532	2705	4424	6009	5673	7128
Idaho	2	193	184	292	772	1029	1331
California	3	322	283	758	845	217	425
N. Y.	4	370	493	560	727	846	784
Wisconsin	5	101	49	72	85	80	128
Colorado	6	21	12	16	——	0	0
Total above		4539	3726	6122	8438	7845	9796
Idano as a per-cent of total		4.3	4.9	4.8	9.1	13.1	13.6

(1) Weather Crops and Markets, June 15, 1923, p. 584.
(2) Division of crop and livestock estimates.
(3) Supplement to crops and markets, April 1926, p. 111.

During the years that the American production of all beans has been increasing the United States has changed from a country which normally exported beans to a country which imports beans. Table 27 shows that over the six years, 1914-1919, the average yearly excess of net exports over net imports was 186,000 bushels, or about 1.4 percent

TABLE 27—Beans: Total United States Supply, 1914-1925

	Year beginning July 1*					
	General imports (1000 bu.)	Domestic exports (1000 bu.)	Re-exports (1000 bu.)	Imports or exports (-) (1000 bu.)	United States production** (1000 bu.)	U. S. supply production plus net imports or minus net exports. (1000 bu.)
1914	906	1214	122	-430	11585	11155
1915	663	1760	181	-1278	10321	9043
1916	3748	2165	509	1074	10715	11789
1917	4146	1517	742	1887	16045	17933
1918	4016	4489	1668	-2141	17397	15256
1919	3806	1992	2040	-226	13349	13122
Average 1914-1919	2881	2189	877	-136	13236	13050
1920	824	1216	460	-852	9077	8225
1921	520	1100	214	-794	9150	8356
1922	2623	672	381	1570	12793	14363
1923	886	695	346	-155	16037	15882
1924	1421	549	265	607	14856	15413
1925	1271	576	306	389	19590	19979
Average 1920-1925	1257	801	329	127	13584	13711

* Compiled from Foreign Commerce and Navigation of the U. S., 1914-1920, and monthly summaries of Foreign Commerce of the U. S. June issue 1921-1924.
** U. S. D. A., Yearbooks.

of normal production for the same years. During the ensuing six years the average yearly excess of imports over exports amounted to more than 127,000 bushels, or about 0.9 percent of the average United States production.

The tariff on beans from 1913 to May, 1921 was 25 cents per bushel, and from May, 1921 to September, 1922 was $1.20 per bushel. It is interesting to notice that bean imports have increased in spite of the increase in tariff. The net foreign trade has been a minor factor in United States supply since it has constituted only around 1 percent of total United States production over the 14-year period.

Apparent Supply in United States

Table 27 shows that the total apparent supply of beans has increased from an average yearly supply for the six years, 1914 to 1919, 13,050,000 bushels, to an average yearly supply for the six years, 1920-1925, of 13,711,000 bushels or an increase of 5 percent. This is due to the fact that our production is increasing and we are now importing beans instead of exporting them.

Table 28 shows that the supply of beans has not increased as fast as has the population of the United States. In other words the per capita supply of beans has decreased from an average for the six years, 1914-1919 of 0.128 bushels to an average for the six years, 1920-1925, of 0.122 bushels or a decrease of 4.7 percent.

TABLE 28--Beans: per Capita United States Supply, 1914-1925

	Estimated population of the U. S. as of July 1,*	Supply** (2)	Per capita supply
		Bu.	Bu.
1914	97927516	11155000	.113
1915	99342625	9043000	.091
1916	100757735	11789000	.117
1917	102172845	17933000	.175
1918	103587955	15256000	.147
1919	105003065	13122000	.125
Average 1914-1919		13050000	.128
1920	106418175	8225000	.077
1921	107833284	8356000	.077
1922	109248393	14363000	.131
1923	110663502	15882000	.143
1924	112078611	15463000	.138
1925	115378094	19489000	.169
Average 1920-1925		13630000	.122

** From Table 27.

* Published reports of the Bureau of the Census.

Price of Beans

Table 29 shows the Idaho farm price of beans and the purchasing power of Idaho beans over the period 1910-1925.

TABLE 29—Beans: Idaho Farm Price and Purchasing Power of Idaho Beans, 1910-11 to 1925-26.

Season	Idaho farm price (average, Sept.-August) ($ per bu.) (1)	General price level (average Oct.-Apr.) (2)	Purchasing power of Idaho beans (Farm price divided by price level)
	THE PRE-WAR PERIOD		
1910-11	2.77	94	2.95
1911-12	2.70	96	2.81
1912-13	2.69	100	2.69
1913-14	2.75	99	2.78
1914-15	2.99	98	3.05
Average - 1910-15	2.74	97.4	2.86
	THE WAR PERIOD		
1915-16	3.56	112	3.18
1916-17	6.22	154	4.04
1917-18	6.68	185	3.61
1918-19	4.64	199	2.33
1919-20	3.94	228	1.76
1920-21	2.69	174	1.55
Average - 1915-21	4.62	175.4	2.74
	THE POST-WAR PERIOD		
1921-22	2.95	141	2.09
1922-23	3.74	157	2.38
1923-24	3.35	151	2.21
1924-25	3.53	157	2.25
1925-26	2.97 (3)	155	1.92
Average - 1921-26	3.31	152.2	2.17

(1) Supplements to Weather, Crops and Markets and prior publications.
(2) U. S. Dept. of Labor, "all commodity" index number.
(3) Last four months of 1925 only.

Summary

It is safe to say that beans have tended to become a more profitable crop than many competing crops and enterprises. The outlook hinges on the proper interpretation to be given the following conditions:

(1) The total United States supply of beans has shown an upward trend.

(2) The price of beans in Idaho and the United States compared with other crops has apparently shown an upward tendency.

We may conclude that if both the supply and the relative profitableness of beans have been increasing it must mean that the demand for beans has been increasing faster than the supply. This is further indicated in Table 28.

The Alfalfa Seed Situation

State Aspects

There has been rapid development in alfalfa seed production in Idaho during the past few years. In 1918, 5500 acres were cut for seed; in

TABLE 30—Acreage and Production of Alfalfa Seed in Idaho (1)

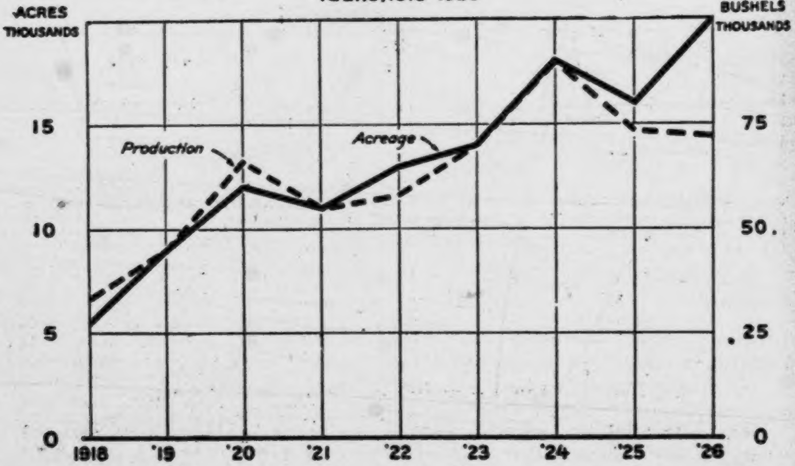
Year	Acres cut for seed	Production bushels,
1918	5,500	33,000
1919	9,000	45,000
1920	12,000	66,000
1921	11,000	55,000
1922	13,000	58,000
1923	14,000	70,000
1924	18,000	90,000
1925	16,000	73,600
1926*	20,000	72,000

1 State statistician's reports.
* Preliminary.

FIGURE XVIII

ACREAGE AND PRODUCTION OF ALFALFA SEED

Idaho, 1918-1926



1925 the acreage was 16,000. This change is shown graphically in Figure 18. The acreage and production of alfalfa seed in Idaho since 1918 is given in Table 30.

TABLE 31—Alfalfa Seed Acreage Compared with Total Cropped Acreage in Idaho, 1919 and 1924

Census year	Idaho total cropped acreage	Idaho total alfalfa seed acreage	Percent alfalfa seed acreage of total cropped acreage
1919	2,787,836	9,000	.3
1924	2,581,567	18,000	.7

The irrigated acreage in 1919 was 1,199,000 acres and alfalfa seed acreage 9000 acres, or three-fourths of 1 percent of total irrigated cropped acreage. Alfalfa acreage doubled between 1919 and 1924.

The trend in yield per acre in the state has been slightly downward, Table 32 shows that the average yield for the four years, 1918-1921, was 5.4 bushels per acre, and for the five years 1922-1926, 4.5 bushels per acre.

TABLE 32—Yield and Price of Alfalfa Seed, Idaho (1)

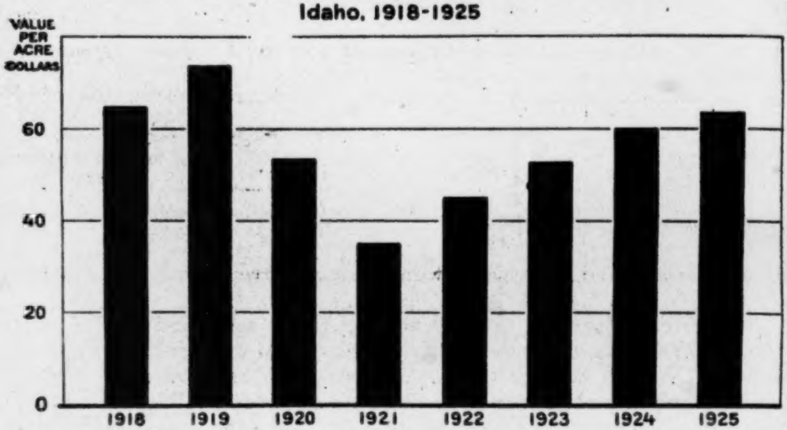
Year	Yield per acre, bushels	Dec. 1 price per bushel	Gross value per acre
1918	6.	$ 10.80	$ 64.80
1919	5.	14.70	73.50
1920	5.5	9.70	53.35
1921	5.	7.00	
Average 1918-1921	5.4	10.55	56.66
1922	4.5	10.50	45.00
1923	5.	10.50	52.50
1924	5.	12.00	60.00
1925	4.6	13.80	63.48
1926*	3.6		
Average 1922 on	4.5	11.70	55.24
			55.95

(1) State statistician's reports.
* Preliminary.

VALUE PER ACRE. As shown in Figure 19, the value per acre (yield multiplied by farm price) of alfalfa seed for the eight-year period has shown a slight downward trend, altho from 1921 to 1925 the trend was upward. The trend for the eight-year period was down in spite of the fact that the trend in price per bushel during the same

FIGURE XIX

GROSS VALUE PER ACRE OF ALFALFA SEED
Idaho, 1918-1925



period was up. This upward trend in price was due to the increased Grimm alfalfa acreage.

The acreage of all alfalfa cut for seed in 1926 was 20,000, according to preliminary estimates of the Idaho state statistician. There were 32,934 acres of Grimm alfalfa eligible to be cut for seed in 1926. This acreage, therefore, constituted 82 percent of total alfalfa acreage cut for seed in the state.

Regional Aspects

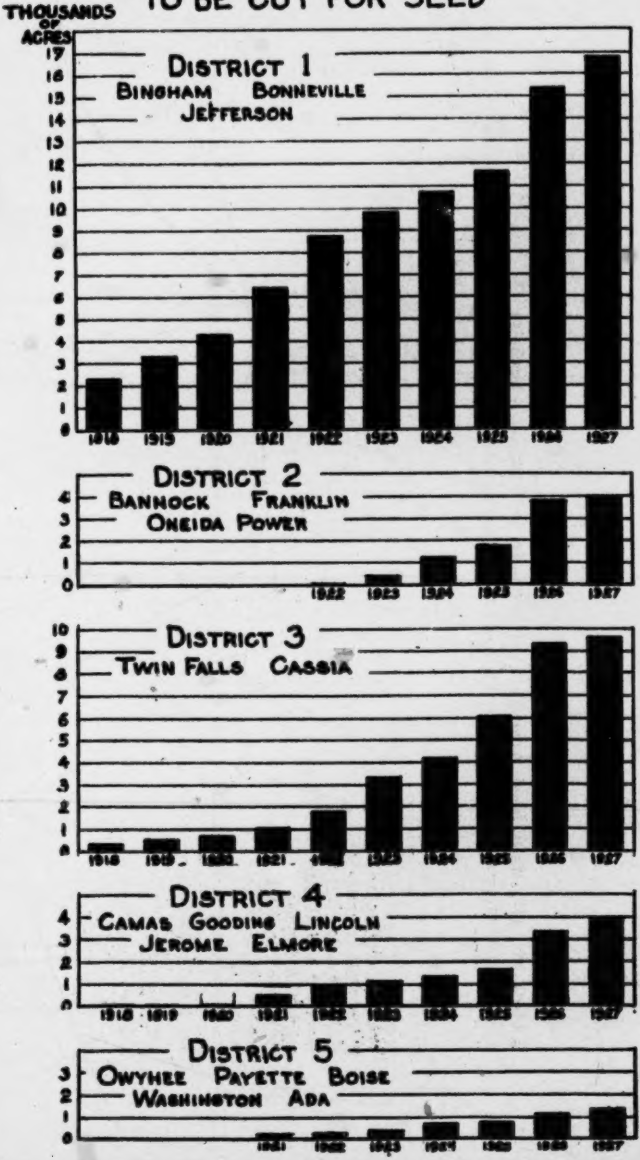
No accurate data concerning the production of alfalfa seed by counties is available except for Grimm seed. Figure 20 shows the development of the Grimm seed industry in the different sections of the state. Practically no seed is grown in northern Idaho, the Palouse district or in Lemhi County.

Figure 20 shows that the Upper Snake district (especially Bingham County) has the most eligible acreage, about 16,000 acres for 1927. The Twin Falls south side section has about two-thirds that amount. The latter district has increased its acreage at a more rapid rate than the Upper Snake district.

All districts have been increasing their acreage of Grimm, according to these figures. However, it should be stated that the figures were compiled from 1926 certificates and consequently, do not reflect acreage plowed up in prior years. It is possible, therefore, that the rate of increase as shown in Figure 19 may be too great for all districts.

Table 33 shows that the yield of all alfalfa seed in Bingham County has averaged 5.3 bushels per acre, 5.2 bushels in Twin Falls County, and 2.5 bushels in Cassia County.

FIGURE XX



ACREAGE OF GRIMM ALFALFA ELIGIBLE TO BE CUT FOR SEED

TABLE 33—All Alfalfa Seed, Average Yield per acre, 1919-1925. (in bushels)

	1919	1920	1921	1922	1923	1924	1925	Average 1919-1925
Bingham County (1)	4.75	4.0	6.0	5.0		6.6	5.5	5.3
South East Idaho (1)	4.0	7.0	5.0	4.0		3.5	7.3	5.1
Twin Falls County (1)	5.0	8.0	2.5	5.5	5.0	7.0	3.5	5.2
Cassia County (2)	2.0	3.3	2.6	1.9	2.4	2.6	3.1	2.5
Gooding and Jerome counties (2)	5.5		2.7	4.5	6.0	5.5	3.0	4.5
Minidoka County (2)	2.9	3.7	4.2	2.7	2.0	2.4	2.9	3.0
Ada and Canyon counties (2)	3.13	2.9	4.0	4.1	5.0	1.9	2.5	3.4
Idaho (3)	5.0	5.5	5.0	4.5	5.0	5.0	4.6	4.9

(1) State statistician's reports for given counties. (Unrevised figures.)

(2) Reclamation reports.

(3) State statistician's reports for the state.

These figures are not fully representative as they do not separate Grimm and common seed. The price of Grimm has been at least twice that of common. In the following section on Grimm seed an estimated value per acre for Grimm will be given for certain years and counties.

Table 34 shows that the average value per acre of cleaned seed in Bingham County in 1925 was about $57 and in 1926 was $35. In Twin Falls County in 1925 the average value per acre of cleaned seed was $21.48 and in 1926 it was $35.84. Value per acre is the selling price of the crop raised on an acre.

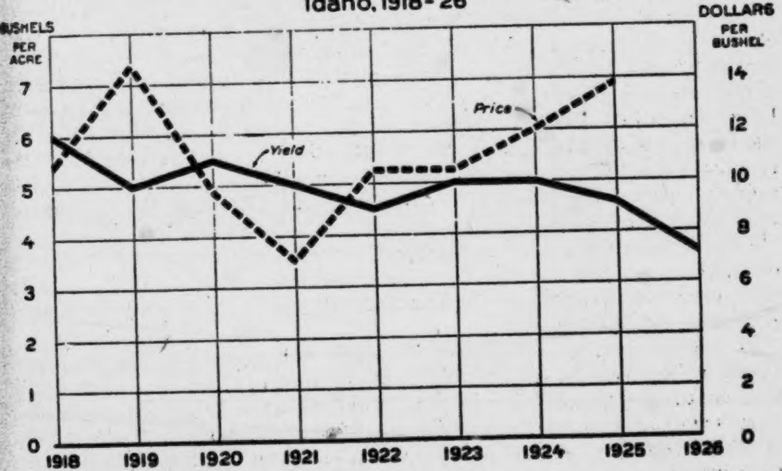
TABLE 34—Value per Acre of Cleaned Seed in Bingham and Twin Falls Counties, 1925 and 1926.

County	1925			1926		
	Value per acre of No. 1 seed	Value per acre of No. 2 & 3 seed	Total value per acre	Value per acre of No. 1 seed	Value per acre of No. 2 & 3 seed	Total value per acre
Bingham ..	$49.87	$7.03	$56.90	$32.40	$ 2.63	$35.03
Twin Falls	20.18	1.30	21.48	35.05	.79	35.84

FIGURE XXa

YIELD AND PRICE OF ALFALFA SEED

Idaho, 1918-'26



Marketing of Alfalfa Seed

SOURCES. Table 35 shows the sources of the alfalfa seed supply in the United States.

TABLE 35—Sources of Alfalfa Seed in United States
(Pounds of cleaned seed)

Sources	Average 1919-1923	1923	1924	1925	Average 1924-1925
Utah (1)	7,000,000		16,800,000	23,500,000(6)	20,150,000
Arizona (2)			5,000,000	4,750,000	4,875,000
Kansas (2)				4,000,000	
California (2)			3,500,000	3,250,000	3,375,000
Idaho (3)	2,259,000		3,442,500	2,815,200	3,084,450
Montana (2)				2,500,000	
Texas and N. M. (2)			2,500,000	1,200,000	1,850,000
Oklahoma (2)				1,250,000	
Nebraska (2)			1,000,000	1,250,000	1,125,000
Colorado (2)			1,000,000	1,000,000	1,000,000
Total above				45,515,200	
United States (2)		34,500,000(7)	46,000,000(2)	49,000,000(6)	47,500,000
Imports	9,726,880(4)	12,818,400(4)	4,782,500(4)	4,548,300(5)	4,665,400
Total U.S. and imports		47,318,000	50,782,500	53,548,300	52,165,400

(1) Agriculture and Livestock in Utah—Salt Lake Chamber of Commerce.
(2) Nov., 1925, supplement to Crops and Markets, p. 367.
(3) State statistician reports of uncleaned seed in bu., converted to pounds uncleaned seed by multiplying by 51 lbs. the bushel and deducting 25 percent to reduce to a clean seed basis.
(4) 1925 Yearbook, p. 1013, Year beginning July 1 of given year.
(5) Compiled from supplements to Crops and Markets for 1925 and 1926, years beginning July 1 of given year.
(6) August 5, 1926 Utah alfalfa seed report.
(7) October, 1924, supplement to Crops and Markets, p. 354.

The above table shows that Utah's average production for 1924-1925 was about three times the state's average production in 1919-1923. Utah's average 1924 and 1925 production was 42.5 percent of the total for the United States. Idaho's production has not increased nearly as fast as Utah's, the Gem state's average 1924-1925 production being only about one-half greater than the average 1919-1923 production. Imports have constituted about 10 percent of the United States production in the three years 1923-1925. Table 35 indicates that imports have been decreasing: the average imports for the years 1919-1923 were 9,726,880 pounds whereas the imports for the two years 1924 and 1925 averaged only 4,665,400 pounds.

Only fragmentary data are at hand concerning United States exports of alfalfa seed, but for the fiscal year beginning July 1, 1922, exports were only one-twentieth of the imports. In 1923, the exports were one-fourth of the imports.(1).

If the United States increases its production greatly in the next few years, prices will be appreciably lowered in this country. The tariff will no longer be effective if production increases above domestic demands, a condition which is easily possible to attain, as is shown above. It would probably be poor policy for the producers of the United States to increase production to that extent.

The Gooding seed staining bill providing for the staining or coloring of imported seed became effective May 26, 1926.

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(1) 1924 U. S. D. A. Yearbook, p. 1045.

The seeds of alfalfa and red clover from any foreign country or region not adapted for general agricultural use in the United States are prohibited entry into the United States unless at least 10 percent of the seeds in each container are colored red. Also all alfalfa and red clover seed for which the country of production can not be shown is prohibited entry unless at least 10 percent of the seeds in each container are colored red. Except as provided above all alfalfa and red clover seed is prohibited entry into the United States unless at least 1 percent of the seed in each container, if produced in Canada, is colored violet, or if produced in any other country, is colored green.

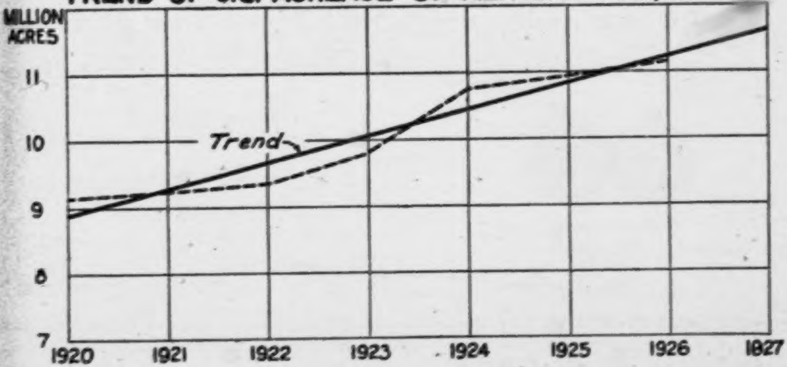
It is doubtful whether the tariff will keep out Canadian seed. The law recognizes Canadian seed to be adapted for use in the United States. The 4 cent tariff is not high enough to make it unprofitable for the Canadian grower to sell in the United States because Canadian alfalfa seed is sold in the United States at a price higher than our common seed and it is probable that their cost of production is as low if not lower than ours. The greatest effect of the act is expected to result from the clauses declaring seed from Argentina and Europe unadapted to use in this country, since 80 percent of our imported seed comes from these sources.

PROBABLE FUTURE DEMAND.—The market for Idaho alfalfa seed is nation- if not world-wide. Conditions of supply and demand in the United States as a whole and not local conditions determine the price. This is because alfalfa seed is non-perishable and of relatively high value per pound, making it suitable for transportation over long distances.

The true demand for seed in a given year would be indicated by the number of acres the farmers of the country would *like* to plant *at some given price, not* by the number of acres they *actually do* plant to the seed. This last may be called apparent demand or consumption.

FIG. XXI

TREND OF U.S. ACREAGE OF ALFALFA HAY, 1920-27



Certain errors in analysis may arise from the use of apparent demand instead of true demand. Since there is no way to set forth in figures the true demand we are obliged to use the best substitute or apparent demand, as indicated by the number of acres actually planted to seed in any given year.

The trend in acreage of alfalfa hay is, of course, the basic guide in determining the domestic demand for seed. Figure 21 indicates this trend for the last seven years (1927 projected). From a careful analysis made in connection with this survey it appears that prospective demand will not absorb a greatly increased production of common varieties of seed without a lowering of prices.

MARKETING AGENCIES AND METHODS. Certain facts concerning the nature of alfalfa seed and its uses have an important bearing upon the marketing institutions and methods used. More than 40 percent of the alfalfa seed of the United States was sold by growers in 1925 by November 15 and more than 50 percent by December 15. Idaho growers parted with 55 percent of their 1925 crop by December 15. In general, then, we may say that growers usually sell their crops within a few months after harvest. On the other hand, reports from 1890 retail seed dealers to the United States Department of Agriculture in 1926 indicated that they sell 75.3 percent of their alfalfa seed to farmers in the spring, and only 24.7 percent in the fall. Putting these two facts together we find that the grower likes to sell early in the fall, whereas the ultimate consumer does not want most of the seed until the following spring.

These fundamental facts necessarily give rise to the necessity of holding or speculating on a large part of the crop. Any association doing so would have to have large ability to finance the grower members who need part of the value and would need to have a contract with the growers that would equitably distribute the market risk inevitably involved in speculating on the price of the crop. If they did not speculate themselves

TABLE 36—Yield per Acre of Alfalfa Seed in Important States and the United States, 1925.

State	Yield per acre bu. as threshed(1)
Utah	6.26
Idaho	4.6 (2)
Colorado	3.7
Montana	2.6
Nebraska	2.5
Kansas	2.3
United States	4.4

(1) From "Agriculture and Livestock in Utah", Salt Lake Chamber of Commerce.
(2) Reports of Idaho state statistician.

by holding it, then they would have to sell to some agency at a price low enough to protect that agency in assuming the risk.

Comparison of Producing Conditions

Table 36 indicates the yield per acre in various sections in 1925. Trends in yields per acre in Utah and Idaho are indicated in Table 37.

TABLE 37—Trends in Yield per Acre, Utah and Idaho, 1919-1925. (bushels)

Year	Utah	Idaho
1919	4.5	5.0
1920	4.9	5.5
1921	5.0	5.0
1922	5.6	4.5
1923	4.7	5.0
1924	5.2	5.0
1925	6.36	4.6
Average	5.2	4.9

The trend in Utah has been up. the trend in Idaho down. Insofar as this is true, Utah, which already produces more than 40 percent of the United States total can undersell Idaho if costs per acre are the same. This applies to all alfalfa seed, comparative yields and costs of Grimm not being available.

The Certification System

Certification is a voluntary service initiated in 1920 by the state seed commissioner, Boise, who is a representative of the University of Idaho Agricultural Experiment Station, Moscow.

Certification of Grimm alfalfa and Cossack alfalfa became necessary in order that the high priced hardy varieties might be distinguished from the common alfalfa. There is no difference in appearance of the seed of the hardy and common varieties and common in some cases was sold as Grimm. As a result growers began to lose faith in Grimm alfalfa. Idaho was the first state to adopt a certification system on Grimm and Cossack. Pedigreed origin is now established on all fields on which field inspection certificates are issued. The seed is sealed at the huller, checked through the cleaning processes, and resealed, tagged and sold under grades. This system assures the ultimate consumer that he receives the genuine hardy alfalfa. There is no guessing: sealed seed is certain seed.

Summary and Outlook

The demand for alfalfa seed of all kinds as indicated by the amount necessary to plant and maintain the United States acreage of alfalfa hay is not increasing fast enough to warrant a greatly increased production of common varieties without a lowering of prices. The United States has in the past been an importing country. The average annual total imports have been only about 10 percent of total United States production and net imports constitute an even smaller proportion. Imports have been decreasing. It would be relatively easy, then, since total demand is not increasing rapidly, to increase production to the point at which the United States would cease to be an importing country. It might even become an exporting country. This would tend to lower prices materially.

OUTLOOK FOR GRIMM ALFALFA. The outlook for Grimm seed is somewhat different. Hardy varieties are gradually replacing the common variety. Due to the fact that the price of Grimm alfalfa has been maintained approximately twice as high as that for common seed, the western seed producing states have increased the Grimm acreage. The increase in production eventually will result in reduction of the price of Grimm, but many years are likely to elapse before the price of Grimm and common will be approximately equal. A gradual reduction in Grimm prices will stimulate the demand for the hardy varieties among the farmers in regions of severe winters.

There is an enormous field for alfalfa seeding in the east. Grimm seed is highly desirable for a large part of the territory and probably will replace much of the common. According to the United States Department of Agriculture 1925 Yearbook, 21 percent of the alfalfa-hay acreage and 57 percent of the dairy cows are east of the Mississippi River. The west has 79 percent of the alfalfa hay acreage and only 43 percent of the dairy cows. The farmers east of the Mississippi need more alfalfa and the most northern of these states will prefer Grimm to common. This section is a potential market for Grimm.

If the Canadian variegated seed proves sufficiently hardy to compete with Grimm, the outlook for Grimm may be adversely affected. Similarly, if Utah, which now produces about 42 percent of the total United States crop of alfalfa seed, only one-eighth of which is of the Grimm variety, should change but one-half of its present acreage from common to Grimm seed the effect on the price of Grimm seed in Idaho would be markedly adverse.

The Clover Seed Situation

The plantings of all clover seed in Idaho for the period, 1918 to 1921, averaged 16,970 acres annually. For the period, 1922 to 1925, the average acreage was 14,000 (See Table 38).

The yield of all clover seed for Idaho, according to Table 39 has shown a downward trend. However, this may be due to more accurate statistics in later years. Yields have been lower in the Upper Snake River counties than in the south central and southwestern counties.

TABLE 38—Clover Seed: Idaho Acreage, Yield and December 1 Price, 1917-1925

Year	Kind	Acres	Yield per acre bu.	Production bu.	Price Dec. 1 bu.
1917	All	18000	5.5	99000	$12.60
1918	All	15000	5.8	87000	20.50
1919	Red	13000	6.0	78000	25.40
	All	15900	5.9	94200	25.56
1920	Red	16000	5.5	88000	11.25
	All	19000	5.5	104000	11.70
1921	All	18000	5.0	90000	9.75
1922	All	16000	4.5	72000	9.70
1923	All	15000	4.0	60000	11.90
1924	All	14000	4.5	42000	12.00
1925	All	11000*	5.0*	55000*	14.20*

(1) State statistician's reports.

* Preliminary.

TABLE 39—Clover Seed Districts Yield per Acre, Idaho, 1919-1925 (4)

Year	Upper Snake (1) Bu.	South central (2) Bu.	South-west (3) Bu.	Weighted state average
1919		5.0	6.9	5.9
1920	4.8	6.0	5.0	5.5
1921	4.0	5.0	5.2	5.0
1922	4.0	4.5	5.0	4.5
Average 1919-1922	4.2	5.0	5.2	5.2
1923	3.0	4.6	4.0	4.0
1924	3.0	4.9	6.0	4.5
1925	5.7	5.0	4.2	5.0
1926	4.8	4.5	2.9	3.8
Average 1923-1926	4.1	4.7	4.3	4.3

(1) Bingham, Bonneville, Butte, Clark Fremont, Jefferson, Madison and Teton counties.

(2) Cassia, Twin Falls, Blaine, Camas, Elmore, Gooding, Jerome, Lincoln, Minidoka and Custer counties.

(3) Ada, Boise, Canyon, Gem, Adams, Owyhee, Valley, Washington and Payette counties.

(4) State statistician's report.

Table 40 indicates the shipments of clover seed from Idaho from 1918-19 through 1925-26.

TABLE 40—Clover Seed Shipments from Idaho by Districts, 1918-19 Through 1925-26.

July 1-June 30	Upper Snake (1) (Cars)	South central (2)		Southwest (3)		Total	
		(Cars)	(Percent)	(Cars)	(Percent)	(Cars)	(Percent)
1918-19	2	83	59.4	55	39.1	140	100
1919-20	1	36	59.0	24	39.4	61	100
1920-21	—	37	54.5	31	45.0	68	100
1921-22	3	77	50.3	73	47.6	153	100
Aver. 1918-1922	1.5	58.2	55.8	45.7	42.6	105.5	100
1922-23	9	113	65.6	50	29.1	172	100
1923-24	13	117	61.0	62	32.3	192	100
1924-25	12	78	54.1	54	37.6	144	100
1925-26	10	54	56.3	32	33.3	96	100
Aver. 1922-1926	11.0	90.5	59.2	49.5	33.3	151.0	100

(1) Bingham, Bonneville, Butte, Clark, Fremont, Jefferson, Madison, and Teton counties.
(2) Cassia, Twin Falls, Blaine, Camas, Elmore, Gooding, Jerome, Lincoln, Minidoka and Custer counties.
(3) Ada, Boise, Canyon, Gem, Adams, Owyhee, Valley, Washington, and Payette counties.

United States Consumption

The amount of all clover seed annually used in the United States has been estimated by combining total United States production with net imports or net exports. Table 39 shows that the United States consumption of all clover seed has varied from as low as 75 million pounds in 1918-19 to more than 143 million pounds in 1920-21. The average annual consumption over the six-year period 1920-21 thru 1925-26 was 117,068,000 pounds.

Table 41 shows that the United States has imported more clover seed than was exported in 12 out of the past 13 years. Furthermore, net imports are coming to constitute a larger percentage of our annual consumption of seed. For the three seasons, 1920-21 thru 1922-23, net imports constituted an average percent of average annual consumption whereas for the three seasons, 1923-24 to 1925-26, the proportion of net imports to total consumption was nearly 40 percent. This is because average net imports have more than doubled while average production in the United States has decreased more than 40 percent over the period in question. But as stated above, United States consumption has been decreasing since 1920-21, which means that the increase in net imports has not entirely offset the decrease in United States production.

Table 42 shows that the trend in the wholesale price of red clover at Toledo has, since 1920-21, been upward at the rate of nearly $1.50 per hundred pounds per year or at an annual increase of 6.3 percent of the average price over the period. The trend in prices paid growers in Idaho and in the 10 important producing states including Idaho has shown an even more striking recovery since 1920-21.

TABLE 41—All Clover Seed: United States Imports, Exports, Production and Consumption, Seasons 1913-14 to 1925-26.

Year beginning July 1 (1)

Season	Imports (1000 lbs.)	Exports (1000 lbs.)	Net imports net exports (1000 lbs.)	Total U. S. Production (1) (1000 lbs.)	U. S. consumption Production plus net imports or minus net exports (1000 lbs.)	Net imports As percent of U. S. supply (percent)
1913-14	30,108	4,641	25,467			
1914-15	24,157	9,750	14,407			
1915-16	41,840	7,116	34,724	78,000	112,724	31.0
1916-17	18,172	5,887	12,285	102,360	114,645	10.7
1917-18	7,978	9,439	1,461	89,280	87,819	
1918-19	11,312	7,771	3,541	71,820	75,361	4.7
1919-20	25,264	6,465	18,799	89,040	107,839	17.4
1920-21	32,255	5,420	26,835	116,640	143,475	18.7
1921-22	25,953	4,753	21,200	92,280	113,480	18.7
1922-23	13,903	4,331	9,572	117,300	126,872	7.6
1923-24	53,091	785	52,306	73,680	125,986	41.6
1924-25	29,387	1,863	27,524	55,620	83,144	33.1
1925-26	48,683	973	47,710	61,740	109,450	43.6

(1) Yearbook, U. S. D. A.

TABLE 42—Red Clover Seed, the Idaho Price Paid Growers, the Price Paid Growers in 10 Important Producing States, and the Wholesale Price at Toledo

(Dollars per 100 pounds)

Season	Wholesale price	Price paid growers (2)	
	Red clover seed at Toledo (1) (Av. Sept. thru Aug.)	Ten important states (Crop year)	Idaho (Crop year)
1913-14	14.58		
1914-15	15.37		
1915-16	17.45		
1916-17	18.08		
1917-18	28.10		
1918-19	43.65	33.26	36.50
1919-20	48.60	43.93	45.60
1920-21	21.83	17.64	13.95
1921-22	21.98	16.18	15.10
1922-23	20.03	17.21	16.75
1923-24	20.83	19.24	18.25
1924-25	29.12	25.06	21.30
1925-26	27.72	24.29	25.17
1926-27		26.27	27.65

(1) For 1913-14 and 1914-15 the Dec. 1 price as quoted in the 1918 Yearbook, p. 211, 1915-16, is the average of December thru August; other seasons up to 1924-25 are the average of September thru August as quoted in the 1926 Seed Trade Buyers Guide, Chicago. 1925-26 is the average for September and October only.

(2) From Table 38.

The price of red clover seed has increased more than the average prices of other farm products since 1920-21, as shown by Table 43.

TABLE 43.—Wholesale Price (Dollars per cwt.) of Red Clover Seed Adjusted by Dividing by the Index of Average Farm Prices.

Season	Wholesale price of red clover seed (1) (Over Sept.-Aug)	Farm products index number (2) (Over Sept.-Aug)	Adjusted red clover price (3)
1915-16	17.45	111	15.72
1916-17	18.08	167	10.83
1917-18	28.10	211	13.32
1918-19	43.65	229	19.06
1919-20	48.60	235	20.68
1920-21	21.83	143	15.26
1921-22	21.98	127	17.31
1922-23	20.03	140	14.31
1923-24	20.83	141	14.77
1924-25	29.12	156	18.67
1925-26	27.72	148	18.72

(1) Table 42.
(2) U. S. Bureau of Labor statistics.
(3) Price divided by the index number.

No figures are available on acreage of red clover seed alone. Idaho ranks tenth in acreage of all clover seed. The Idaho acreage over the five years 1921-1925 has been only 1.7 percent of the average acreage of the United States. The average total acreage of the six states of Ohio, Illinois, Wisconsin, Michigan, Indiana and Iowa has averaged 80 percent of the acreage of the United States.

The acreage of clover seed in Idaho decreased from 1921 to 1925. It is significant, however, that altho the average yield per acre of the six states— 80 percent of the United States acreage—was 1.2 bushels, Idaho's average yield was 4.3 bushels or three and a half times as much.

Acreage in the United States

The acreage planted to clover hay in the United States is undoubtedly influenced by the price of clover seed as well as itself influencing that price. It cannot, therefore, be taken as a completely independent indicator of demand. Altho all clover hay acreage has shown an upward trend, red clover hay acreage steadily declined(1).

Table 44 indicates the prevailing price of red clover seed in various states and geographic divisions during 1918 to 1926.

The federal Seed Act, as amended April 26, 1926, requires that red clover seed imported into the United States be colored. A reluctance on the part of the farmers to buy colored seed of any kind may be a factor in sustaining the price of the domestic output.

TABLE 44—Red Clover Seed Prices Paid Growers in Idaho and Important Producing States (1) For Crops, 1918-1926.

	Dollars per 100 pounds									Average
	1918	1919	1920	1921	1922	1923	1924	1925 (2)	1926 (3)	1918-1926
Idaho	36.50	45.60	13.95	15.10	16.75	18.25	21.30	25.17	27.65	24.47
Oregon	35.50	47.50	22.35	15.30	20.10	19.65	23.05	25.50	26.90	26.20
Average western	36.00	46.55	18.15	15.20	18.42	18.95	22.17	25.33	27.27	
Iowa	31.83	41.76	17.78	15.98	16.50	19.85	26.35	24.56	24.55	24.36
Minnesota	32.80	43.10	16.75	15.50	17.10	18.95	24.00	22.04	24.92	23.91
Missouri	29.75	39.25	15.85	16.05	15.55	18.35	21.80	22.92	23.10	22.51
Illinois	32.07	43.50	18.55	16.42	16.90	20.40	27.50	23.87	27.35	25.17
Indiana	31.84	44.75	17.88	16.66	16.66	19.70	26.35	26.81	27.45	25.34
S. Michigan	34.20	45.00	17.10	16.60	17.35	18.70	27.20	24.05	27.50	25.30
N. W. Ohio	33.65	44.40	19.05	17.20	17.55	19.30	27.35	23.77	28.65	25.66
Wisconsin	34.50	44.45	17.15	17.01	17.56	19.23	25.75	24.25	24.62	24.95
Average eastern	32.58	43.28	17.51	16.43	16.91	19.31	25.79	24.03	26.02	
Average above	33.26	43.93	17.64	16.18	17.21	19.24	25.06	24.29	26.27	

(1) 1918-22 from U. S. Dept. of Agr., Statistical Bulletin No. 2, p. 15.
1923 from 1924 Yearbook, p. 818.
1924, from 1925 Yearbook, p. 1015.

(2) Average of Sept. 8 prices and Dec. 8 prices only from supplements to Crops and Markets.

(3) August 30 price only from supplements to Crops and Markets.

A study of yields indicates that the states having a high value per acre usually have a high yield per acre, and it is noticeable that the states with low yields are those which rank highest in acreage. This may be due to the fact that the states having 80 percent of the acreage are middle-west states, many of them in or near the corn belt. The 1925 United States Department of Agriculture Yearbook points out that red clover is by far the best restorative crop in the corn belt rotation. Thus these states will grow clover whether or not they get a high value per acre from the seed. This is not so true in Idaho. Other crops such as alfalfa and, to a lesser extent, beans can be satisfactorily substituted for clover in the Idaho crop rotation as a restorative crop. Thus, altho Idaho ranks second in yield per acre and first in value per acre the state ranks only tenth in acreage.

The acreage of red clover hay in the United States has been steadily decreasing. It may be safely assumed, therefore, that the annual United States consumption of red clover seed has been decreasing. Since the net imports of red clover seed have shown an upward trend over the past six years, and since the total United States consumption has decreased it would appear that the production of red clover seed in the United States has been falling off. On the other hand the wholesale price of red clover seed has been increasing and at a faster rate than the average price of other farm products. An upward trend in price associated with a downward trend, probably indicates that supply is falling off more rapidly than demand. How long this favorable relationship will continue is, of course, problematical. There is a tariff of 4 cents a pound on red clover seed, which has some tendency to sustain the price, since we are on an import basis in the case of red clover seed. That the staining act referred to above is operative to some extent is shown by the fact that the American farmer usually has been willing to pay a premium for American grown red clover seed over what he is willing to pay for imported seed of similar quality.(1)

The Outlook in Idaho

Whether or not the Idaho acreage of red clover seed should be expanded depends primarily upon whether Idaho can successfully compete with other producing sections. This in turn will depend upon whether the cost of production per bushel of Idaho grown red clover seed will be as low as the cost in other states.

If red clover is a necessary crop in the corn belt rotation, then the only items that should be counted as a cost of clover seed in corn belt states are the special cash costs involved in producing clover seed plus the value of the hay that otherwise could be cut, above the special cash costs on that hay crop. The above method for determining the cost of the clover seed in the corn belt states also could be used to determine the cost of clover seed grown in Idaho except that in Idaho alfalfa is a much more satisfactory restorative crop in farm rotations.

In many districts in Idaho alfalfa would be the only restorative crop used if clover seed could not be raised. In other words, clover can not compete with alfalfa for hay purposes and would not be grown if it were not for the value of the seed crop. Under such conditions the method for determining the cost of growing clover seed in Idaho must be modified. To the special cash costs involved in growing clover seed must be added the gross value of alfalfa that could have been grown as an alternative to clover, minus the special cash costs of growing that alfalfa crop.

If clover acreage is expanded in either the Middlewest or in Idaho beyond what is needed for restorative purposes then the clover hay or seed crop resulting must bear in addition to the above costs a charge for the use of land. It is fair to assume that most of the clover grown in the Middlewest would be grown regardless of whether a profit was made from the hay or seed. It follows consequently that the seed grown there does not have a land charge added to its cost of production. It should be remembered, furthermore, that the Middlewest has more than 80 percent of the acreage of clover seed. If Idaho were to expand the acreage of clover beyond what is needed for restorative purposes, then Idaho's seed would have added to its other costs a land charge and this seed would have to be sold in competition with seed from the Middlewest whose cost did not include a land charge. Of course, if the other costs of Idaho seed were enough lower than those in the Middlewest to offset such a land charge against Idaho seed then Idaho could still compete with middlewestern seed. No figures are available on costs but we have seen that Idaho's yield is three and a half times the yield in the six middlewest states. This has an important influence in lowering costs in Idaho. Furthermore, the quality of Idaho seed is better than that of the Middlewest. Idaho seed won 14 out of 15 premiums at the 1926 International Grain and Hay Show held in Chicago in conjunction with the International Livestock Exhibition. Insofar as such premiums accurately reflect the commercial value of clover seed it would seem that the quality of Idaho seed tends to give it a competitive advantage. The immediate outlook, moreover, seems favorable.

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(1) U. S. D A., Agricultural Situation, 1925-26.

Summary

The national situation, as summarized in the 1927 "Outlook" of the United States Department of Agriculture indicates that the available supply of red and alsike clover seed is the lowest in 25 years and the prices are next to the highest on record. There have been four consecutive small crops of red clover, which in 1926 culminated in the smallest crop ever recorded. As large an acreage of red clover as possible should be harvested for seed in 1927, because (1) of the depleted stocks, (2) smaller potential acreage from which seed may be harvested this year, (3) decided preferences of many farmers for domestic instead of imported seed, and (4) the likelihood of prices being high in the fall.

The Pea Situation

Production in Idaho

Peas have begun to assume an important position in the agriculture of the state. In 1920 the total acreage of dry peas in Idaho was estimated

TABLE 45—Dry Peas: Acreage, Yield, Price per Bushel and Value per Acre, Idaho,* 1921-1926.

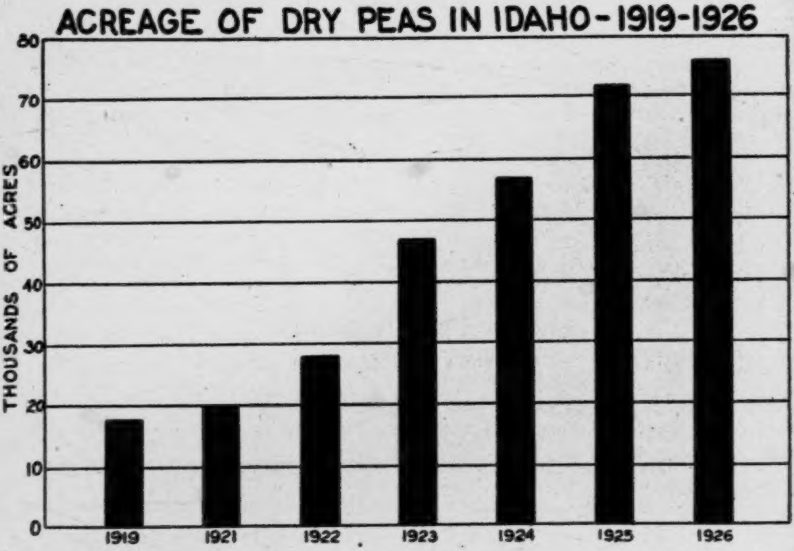
Year	Acres	Yield per acre (bushels)	Total Production (bushels)	Farm value December 1st.		
				Per bushel	Total	Per acre
1921	20000	19.0	380000	$2.65	1,007,000	$50.35
1922 (1)	28000	18.0	500000	2.40	1,200,000	43.20
1923	47000	24.0	1128000	1.85	2,087,000	44.40
1924	57000	15.0	855000	1.85	1,582,000	27.75
1925 (1)	72000	23.0	1656000	1.90	3,146,000	43.70
1926 (2)	76000	20.0	1520000	—	—	
Average 1921-25	44800	19.8	903800	2.13	1,804,400	41.88

* Data from Idaho annual crop summaries, state statistician.
(1) Not revised.
(2) Subject to revision.

to be 20,000. This has increased every year since 1920, the acreage for 1926 being placed at 76,000. (See Table 45.) The average yield per acre for the five-year period, 1921-1925 was about 20 bushels, and the average December 1 farm price per bushel for the same period was $2.13. This gives an average value per acre of $41.88 as is shown in Table 45.

Figures 22 and 23 show in graphic form the acreage from 1919 to 1925 and values per acre from 1921 to 1925. Values per acre fluctuated greatly, being influenced both by changes in yields and by changes in prices.

FIGURE XXII



There are two principal pea producing districts in the state, the Palouse and the Upper Snake districts. Approximately 90 percent of all peas grown in Idaho are produced in these two sections. Latah county produces most of the peas in the Palouse district, hence yields for that county serve to indicate what might be expected in the entire district. The average for the years indicated was about 17 bushels per acre of uncleaned peas in the Palouse area, and about 21 bushels per acre in the Upper Snake district.

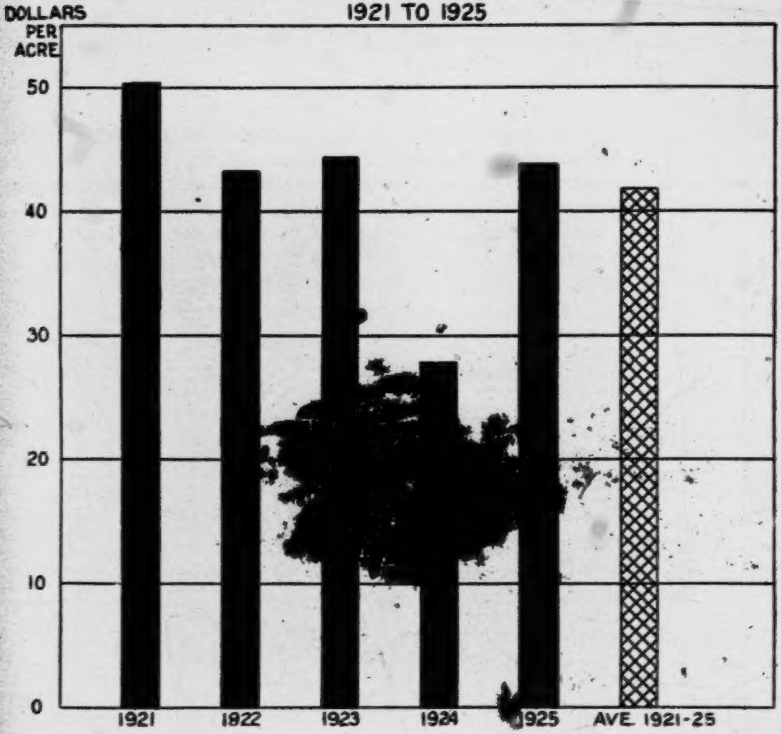
United States Production

The dry pea acreage of the United States decreased from 1,305,000 acres in 1909 to 866,000 acres in 1919, while dry pea production decreased both from 1899 to 1909 and from 1909 to 1919. Imports above exports of dry peas amounted to 1,921,000 bushels in 1918 and only 416,000 bushels in 1925. There appears to have been a downward trend in net imports since 1918, and the United States is now almost on a domestic production basis. Exports of prepared peas have been greater than imports in the past three years.

FIGURE XXIII

DRY PEAS - VALUE PER ACRE - IDAHO

1921 TO 1925



Peas for Canning

In Franklin County a very satisfactory pea canning industry has been developed. The farmers have only small acreages of peas ranging from one-half acre to 10 acres, with an average of about three acres to each farm. The industry was started in 1924 with 180 acres planted. This was increased to 723 acres in 1925. Table 46 indicates the extent of the industry:

A recent farm survey made in Franklin County showed that out of 70 farms studied, 17 grew some peas in 1925. Table 47 gives the summary of the pea enterprise on these farms. Peas on these farms have

TABLE 46—Acreage, Yield and Price of Canning Peas, Franklin County, 1925.

Location of vinery	Acres	Yield in pounds	Price per pound	Value per acre
Franklin	292	735,398	$ .0298	$ 74.89
Whitney	229	725,728	.0296	93.90
Preston	202	564,756	.0336	94.13

TABLE 47—Average Acreage, Production, Cash Receipts and Expenditures and Net Receipts per Farm, by Type of Farm, 1925.

Item	Unit	Dry and irrigated farms	Irrigated farms	All farms
Number of farms		60	10	70
Av. size of farms	Acres	290.4	116.2	265.5
Farm reporting peas	Number	12	5	17
Acres per farm (1925)	Acres	.53	1.6	.68
Percent of crop acreage 1925		.5	1.9	.7
Yield per acre	Tons	1.55	2.0	1.76
Production per farm	Tons	.82	3.2	1.16
Value per acre	Dollars	85.25	114.2	89.4
Value per farm	Dollars	45.10	182.7	64.8
Farms reporting sales:	Number	11	5	16
0	Number	1		1
$1—$149	Number	3		3
150—499	Number	6	4	10
500—999	Number	2	1	3
Peas sold per farm	Tons	.82	3.2	1.16
Receipts from pea sales	Dollars	45.10	182.7	64.8
Percent of crop receipts	Dollars	2.2	6.9	2.9
Percent of farm receipts		1.2	5.7	1.8
Cash expenses on peas	Dollars	3.75	27.30	7.11
Seed	Dollars	3.7	16.0	5.46
Water	Dollars	.05	4.0	.62
Labor	Dollars		7.3	1.04
Percent of pea sales		8.3	14.9	9.2
Receipts above cash exp.	Dollars	41.35	155.4	57.64
Receipts above cash expenses per acre	Dollars	$ 78.00	$ 97.10	$ 84.00

been grown as a supplementary enterprise that requires a minimum of hard labor and returns a high margin over the cash expenses involved.

More than half of the farmers reporting peas had sales ranging between $150.00 and $500.00. The low cash expenses in proportion to cash receipts are apparent. The average cash receipts from peas of all farms studied amounted to $64.80 while cash expenses amounted to only $7.11. When expressed in terms of value per acre the returns from peas above cash expenses amounted to $84.00 per acre.

Green Peas

The green pea industry was started in 1925 at Shelley, where 300 acres were planted. Only 80 acres were harvested, however. This was also a contract crop handled by a Pacific coast produce company. In this arrangement the farmers furnished the land, did the plowing, planting and irrigating, for which they received $35.00 per acre. The company furnished the seed and paid for the harvesting. The pods were gathered by boys and girls who were paid so much per hamper. The crop was hauled to the packing room where it was sorted, packed, iced and placed in refrigerator cars and shipped to points of designation. In 1926 farmers were paid $45.00 per acre instead of $35.00, with the option of growing for 3 cents per pound, basis of green pods delivered at the icing plant. The cost for picking is about 1.6 cents per pound. Practically all of the acreage planted in 1926 was harvested. The companies also extended their option into Teton County where about 250 acres were grown and shipped.

According to reports of the federal Bureau of Agricultural Economics, carlots of green peas from Idaho were received and unloaded in the following markets in July, August, and September, 1926—

Los Angeles	19 cars
New York	7 cars
Cleveland	3 cars
Philadelphia	2 cars
Boston	1 car
Chicago	1 car
Total	33 cars

Prices to jobbers from receivers in these markets varied widely, ranging from 5 to 15 cents per pound and from $2.25 to $7.00 per crate. Much of the crop was on the market when prices quoted were around $4.00 to $5.00 per hamper. On the whole the quality of Idaho peas compared favorably with that of peas from other sections. Since the crop is highly perishable any market could easily be overstocked.

Feed and Forage Crops

Feed and forage crops for livestock comprise nearly two-thirds of the total harvested cropped acreage of the state. Hay and feed crops used nearly 60 percent of the total land in crops, hay alone utilizing 45 percent. Alfalfa comprised about two-thirds of the hay crop acreage and about 28 percent of the total land in crops in the state.

Hay Crops

The hay acreage comprised about 45 percent of the cropped acreage harvested in the state in 1924. More than three-fifths of all hay acreage is devoted to alfalfa. The other classes of hay in order of importance are: Small grains cut for hay, wild grasses, and timothy and clover, the three being approximately of equal importance; then timothy alone, all clover and other tame grasses. (See Table 48.)

TABLE 48—Acreage of Important Hay Crops and Percent of Total Hay Acreage in Idaho, 1924 (1)

	Acres	Percent of total
Total acreage of hay crops	1,162,000	100
Timothy alone	56,000	5
Timothy and clover mixed	97,000	8
Clover, red alsike, and mammoth	38,000	3
Clover, sweet, Japan and crimson	6,000	1
Alfalfa	725,000	62
Other tame grasses	34,000	3
Small grains cut for hay	107,000	9
Wild grasses cut on farms	99,000	9

(1) From 1925 Agricultural Census.

Alfalfa

The acreage of alfalfa hay has been constantly increasing. Alfalfa is an essential crop in the farming plan in Idaho irrigated sections, not only to furnish feed for livestock, but to maintain and improve soil conditions and high crop yields. Idaho has almost no fertilizer bill for alfalfa and other legumes go a long way toward maintaining the soil fertility.

Distribution of the alfalfa acreage by districts in 1925 and 1919 was as follows:

TABLE 48a—Alfalfa Acreage and Relative Importance of Producing Districts in Idaho, 1919-1924*

District	Acres in alfalfa		Percentage of state average in each district	
	1924	1919	1924	1919
Upper Snake	166,309	137,603	23.0	21.0
Southwest Idaho	169,139	169,187	23.3	26.0
Southcentral	234,540	237,485	32.3	36.5
Southeast	97,947	78,309	13.5	11.2
Palouse	35,018	19,623	4.8	3.0
North Idaho and Lemhi	21,280	13,965	2.9	2.2

* Data from federal census.

Yields of alfalfa hay have during the past four years averaged above 3 tons per acre for the whole state. Average yields of alfalfa hay for the years 1919-1925 secured from estimates and available records for the different sections of Idaho follow:

District	Tons per acre
Southwest Idaho counties	3.64 tons
South central counties	3.52
Upper Snake counties	2.96
Southeast counties	2.89
North Idaho counties	2.36
Palouse counties	1.84

Hay prices for the past 10 years in Idaho as of December 15, each year are shown in the following table.

TABLE 49—Idaho Hay Prices, Dec. 15, 1916-1925

	Price per ton, Dec. 15*									
	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925
Timothy hay	$15.00	$18.90	$25.30	$27.10	$16.50	$ 9.00	$15.00	$13.00	$	$11.30
Clover hay	13.20	18.10	20.40	20.80	16.00	8.50	15.00	12.00	10.00	10.80
Alfalfa hay	12.70	15.50	16.50	22.20	12.20	6.00	10.00	9.00	12.00	8.40

* Crops and Markets (all other months may be compiled) already compiled.

A compilation of annual average farm prices of alfalfa hay in the Boise Valley, and on the Twin Falls and Minidoka projects for the past five years indicates that prices were somewhat lower in the surplus alfalfa hay sections than for the state as a whole.

VALUE PER ACRE. Values per acre of alfalfa hay for the state as a whole usually range between $20 and $25. In the better alfalfa sections where yields are around 4 tons, the average value per acre for the past five years would be around $30.00. In estimating the value of alfalfa, however, the hay represents only part of the total. Improved condition of soil, increased crop yields following alfalfa, and the rather low cash expense involved as well as the fairly constant values per acre, are factors that make the alfalfa hay enterprise attractive.

ALFALFA MEAL. Several mills to grind alfalfa meal have been started during surplus years, and some of them grind every year. The industry faces a rather formidable handicap. Records of one of the newer mills for 1925-1926 showed a fuel and labor expense of $4 per ton, about the same amount for sacks, freight on meal to St. Louis. Mo., $11.50 per ton, to Jackson, Miss., $14.40 per ton, brokerage and expenses $1 to $2, without figuring depreciation, interest, etc. The difference in price between choice and No. 1 grades was usually $2.50 per ton, and a considerable amount of the meal went into the latter class. This left a net return to the grower of $5 to $7 per ton delivered, depending on grade, but much of the hay was handled on contract for $2 per ton, so that net receipts were rather low.

CLOVER HAY. Clover hay alone has brought low yields, usually around 1 to 2 tons. The hay crop is usually a side line to the seed crop, which has been a satisfactory source of cash income in some of the most favored sections. Clover and timothy-mixed acreage is considerably larger than that of clover alone.

The Corn Situation

The growth of the corn enterprise is indicated in the accompanying table.

ACREAGE AND YIELDS. Corn acreage has had a definite trend upward, and the enterprise has become sufficiently well established to furnish an abundant source of farm feed and forage in sections where altitude and climate do not make it too hazardous.

The outstanding fact about the corn situation is the upward trend in yields. The state average yield for the past five years was around 38 bushels per acre. Yields in Twin Falls County averaged 54 bushels per acre for the past five years, while on the north side Twin Falls tract and in Boise Valley counties yields averaged only a few bushels less, according to estimates available. In 1925, the average yield was only 2 bushels less than the state average for Iowa.

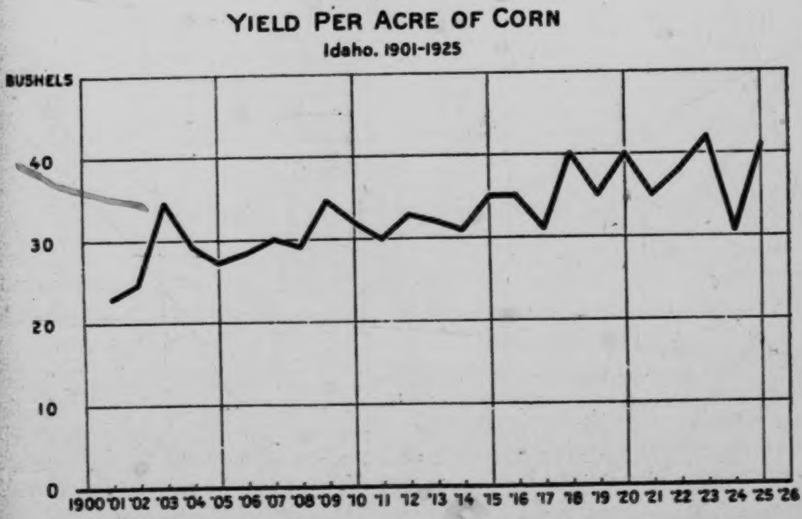
TABLE 50—Acreage, Yield, Production, Farm Prices, and Values Per Acre of Corn in Idaho, 1901-1925.(1)

Year	Acreage	Yield per acre (bushels)	Production (bushels)	Farm prices (cents)	Value per acre (Dollars)
1901	5,091	23.0	117,093	60	13.80
1910	10,000	32.0	320,000	71	22.73
1911	11,000	30.0	330,000	85	25.4[illegible]
1912	12,000	32.8	394,000	70	22.95
1913	14,000	32.0	448,000	68	21.76
1914	19,000	31.0	589,000	72	22.31
1915	22,000	35.0	770,000	65	22.75
1916	21,000	35.0	735,000	100	35.00
1917	18,000	31.0	558,000	155	48.10
1918	23,000	40.0	920,000	183	43.20
1919	35,000	35.0	612,000	165	57.75
1920	*22,500	40.0	900,000	100	40.00
1921	47,000	35.0	1,645,000	50	17.50
1922	52,000	38.0	1,976,000	79	30.00
1923	73,000	42.0	3,066,000	77	32.34
1924	66,000	30.7	2,026,000	113	34.69
1925	78,000	41.0	3,198,000	75	30.75

* 45,000 acres seeded but only half cut for grain. Remainder cut for silage, fodder, etc.

(1) Data from "Idaho Agriculture Review," 1926, and state statistician's reports.

FIGURE XXIV



VALUE PER ACRE. Values per acre of corn for the state, based upon yield estimates and prices as of December 1, have exceeded other feed crops by a considerable margin. The average value for the six years, 1920 to 1925, was $33 per acre. Values per acre have of course been considerably higher in southwest and south central Idaho due to the higher yields, ranging around $40 to $50 on the Twin Falls south side tract, and about $10 less than that amount in the counties of the north side Twin Falls tract and the Boise Valley.

The out-of-pocket expenses involved in corn production are usually very low. The main competition for labor is with other cultivated crops during cultivating time. Where the farm organization does not include an acreage of cultivated crops requiring the full time of farm labor, corn furnishes a feed crop of high value per acre, produced with little cash outlay.

The Oat Situation

Acreage, yield, production, farm prices and values per acre of oats are shown in the following table.

TABLE 51—Acreage, Yield, Production, Farm Price and Value per Acre, 1901-1925.(1).

Year	Acreage	Yield per acre (bushels)	Production (bushels)	Farm price (cents)	Value per acre (Dollars)
1901	78,703	38.3	3,014,325	44	16.85
1910	319,000	38.5	12,282,000	42	16.18
1911	331,000	44.0	14,654,000	40	17.60
1912	348,000	48.9	17,017,000	35	17.11
1913	325,000	46.5	15,112,000	32	14.89
1914	332,000	44.0	14,608,000	38	16.71
1915	335,000	47.0	15,745,000	34	15.98
1916	310,000	43.0	13,330,000	54	23.21
1917	250,000	38.0	9,500,000	77	29.23
1918	237,000	40.0	9,480,000	94	37.60
1919	200,000	35.0	7,000,000	98	34.30
1920	190,000	38.0	7,220,000	68	25.86
1921	180,000	43.0	7,740,000	32	13.76
1922	162,000	38.0	6,156,000	46	17.48
1923	170,000	46.0	7,820,000	44	20.28
1924	155,000	36.0	5,580,000	58	20.89
1925	170,000	49.0	8,330,000	43	21.09

(1) Data from Idaho Agriculture Review, 1920, and state statistician's reports.

The 1924 acreage of oats threshed for grain in Idaho, 132,638, was only 4½ percent of the state's total cropped land. This does not include 13,096 acres of oats cut and fed unthreshed. The acreage of oats in Idaho in 1924 was only one-third of 1 percent of the total United States acreages. The average acreage of oats per year for the past 10 years was around 200,000 acres, but the five-year average, 1921-1925, was only 67,000 acres.

There seems to be a definite downward trend in oat production with higher value feed crops taking the acreage which was formerly devoted to oats.

The Barley Situation

The acreage, yield and value per acre of Barley are shown in Table 52.

TABLE 52—Acreage, Yield, Production, Farm Price and Value per Acre of Barley in Idaho, 1901-1925. (1).

Year	Acreage	Yield (bushels)	Production (bushels)	Farm price (cents)	Value per acre (dollars)
1901	34,301	40.2	1,378,900	53	21.31
1910	136,000	33.0	4,488,000	50	16.50
1911	142,000	42.0	5,964,000	70	29.40
1912	159,000	43.5	6,916,000	51	22.20
1913	130,000	42.0	7,560,000	48	20.15
1914	185,000	38.0	7,030,000	50	19.00
1915	191,000	40.5	7,736,000	52	21.08
1916	190,000	39.0	7,410,000	82	31.98
1917	175,000	29.0	5,075,000	105	31.52
1918	170,000	28.0	4,760,000	130	36.40
1919	90,000	30.0	2,700,000	140	42.00
1920	91,809	38.0	3,488,400	75	28.50
1921	87,000	32.0	2.874,000	47	15.10
1922	85,000	34.0	2,890,000	65	22.10
1923	93,000	43.0	3,999,999	58	24.95
1924	118,000	31.0	3,658,000	82	25.43
1925	124,000	44.0	5,456,000	56	24.62
10-year Average	122,380	34.8	4,222,100	84	28.26
5-year Average	101,400	36.8	3,757,600	61	22.24

(1) Data from agricultural statistician, Idaho.

The acreage trend was generally upward until 1915 and 1916, then fell off 10 percent in 1917. In 1919 the acreage was reduced nearly half, being replaced principally by wheat. Very little change was then indicated until 1924 and 1925 when the trend again was upward. About one-third of the barley acreage was in the Palouse counties in 1924.

Idaho produces about 2 percent of the barley of the United States. Yields have varied between 28 and 46 bushels per acre for the state as a whole. The past 10 year average was 34.8 bushels, the past five-year average 36.8 bushels. During the war years barley yields were low, due probably to the use of the better lands for wheat and other cash crops.

Comparison of Feed Crop Yields

When the problem before the farmer is the production of grain feeds for livestock, a comparison of the usual production per acre in his community will generally be of advantage and sometimes may upset usual crop yield ideas. The five-year average yields of wheat, oats, barley and corn for the state are compared in the following table:

TABLE 53—Average Yield of Corn, Barley, Wheat and Oats in Idaho, 1921-1925

Crop	Yields (bushels)	Yields (Lbs. of feed)
Corn	33.3	2000
Barley	36.8	1766
Wheat	24.5	1470
Oats	42.7	1366

In some sections of the state the yields may be decidedly different, but in southcentral and southwestern Idaho—irrigated sections—corn and barley yield considerably more feed per acre than oats.

Fruits and Vegetables

The Apple Situation

PRODUCTION IN IDAHO. The apple industry is the most important of the fruit industries in Idaho. Total production, price per bushel, and total value of the crop for 1921 to 1925 are given in Table 54.

TABLE 54—Apples: Production, Price per Unit, and Total Value, Idaho, 1921-1925.*

Year	Production	Farm value Dec. 1.	
		Per unit	Total
1921	4,500,000	1.30	$5,850,000
1922	3,900,000	.72	2,808,000
1923	5,600,000	.75	4,200,000
1924	2,178,000	1,20	2,614,000
1925	5,500,000	1.05	5,775,000
1921-1925 Average	4,335,000	.98	$4,249,000

*State statistician reports.

From 1921 to 1925, production ranged from 2,178,000 to 5,500,000 bushels with an average of 4,335,000 bushels for the five-year period. Total farm value of the crop in the same period ranged from $2,614,000 to $5,850,000 with an average of $4,249,000.

In the earlier days of agricultural development many apple orchards were planted. By 1900 there were nearly a million apple trees in the state.

The years 1900 to 1910 saw a great increase in the number of apple trees, amounting to more than 1,500,000. From 1910 to 1920, there was a slight decrease and from 1920 to 1925 there was a falling-off of 636,000 trees. The decrease has continued since 1925, many orchards being removed each year.

There were many early plantings of apples in the Palouse district and apple growing was profitable during the period from 1900 to 1910. When other irrigated sections began producing in carload lots, the fruit from this district was not so much in demand. Following the period of low prices the farmers found it most profitable to remove their trees to make room for other agricultural crops which were more profitable. In the Lewiston district, between 1918 and 1925, a large acreage was removed to allow for expansion in the growing of truck crops, particularly lettuce, and also for peaches, cherries, and apricots.

The principal varieties of apples grown in the state are the Jonathan, which constitutes about 33 percent of the acreage, Rome, about 25 percent of the acreage, and Winesap and Delicious, constituting about 10 percent. The remainder is made up of Stayman and miscellaneous varieties.

Yields, price per unit, and values per acre of apples on the Boise project are shown in Table 55. Yields have fluctuated widely during the period under consideration, ranging from less than 900 pounds in the lowest year to 11,000 pounds in the highest.

TABLE 55—Apples: Yield per Acre, Price per Ton, and Value per Acre, Boise Project.*

Year	Yield per acre (pounds)	Price per unit ton	Value per acre
1917	2,104	$30.00	$ 31.60
1918	900	57.78	26.08
1919	2,414	49.21	59.40
1920	3,538	40.00	70.76
1921	10,000	47.40	237.00
1922	9,000	23.40	112.50
1923	11,000	18.00	99.00
1924	2,155	48.20	52.00
1925	5,747	34.00	97.50
Average 1921-1925	7,580	$34.20	$119.60

*U. S. reclamation service records at Boise.

Complete data on costs of production are not at hand. Some summaries were obtained on production costs covering a large orchard unit in the Boise Valley for the years 1921 and 1922. They are presented to show the distribution of expenses incurred in those years.

TABLE 56—Expenses per Acre of Producing and Disposing of Apples on a Large Boise Valley Orchard, 1921-1922.

Item of expense	1921	1922
Production expense	$23.69	$27.54
Harvest expense	11.00	11.00
Preparation for market	48.23	38.65
Storage expense	2.76	4.24
Shipping expense	3.65	3.17
Miscellaneous expense	7.89	6.69
Total expense of producing and disposing of apples	97.22	91.29
Taxes	3.84	2.59
Water	3.50	2.62
Reserve for freight	.14	
Other miscellaneous expenses		.07
Total costs per acre	$104.70	$ 96.57

Production expense includes cash outlay for such things as corrugation, irrigation, pruning, rodent control, spraying and thinning. Harvest expense includes primarily the cash outlay for boxes and picking. The non-cash outlay in the above items includes allowance for depreciation on the storage and packing house facilities. This comes under the storage and shipping expense.

MARKETS. From 1919 to 1925 Idaho shipped from 5.4 to 11.0 percent of all the apples shipped from the boxed apple states, and from 2.2 to 6.6 percent of all the apples shipped in the United States. Washington is by far the largest shipper of apples, having shipped well over half of all apples sent out from the boxed apple states during the past seven years.

Destinations of apples shipped from Idaho for the last six years have been received from special reports of the Pacific Fruit Express. Table 3 shows the relative importance of each geographic division in the United States, expressed as percentages of total shipments made to each division.

The percentage distribution of apples has varied considerably from year to year but the Middlewest has taken more than any other group of states. The group of states east and south of Chicago has taken the next highest percentage, the mountain and Pacific states the third highest, and the southwest states the least. This is pictured graphically in Figure 25. Because Idaho's markes are so widely distributed it means that its apples come into direct competition with apples from almost every commercial producing area in the United States.

DESTINATIONS OF IDAHO APPLES

PERCENTAGE OF TOTAL CROP GOING TO SPECIFIED REGIONS
1921 TO 1925

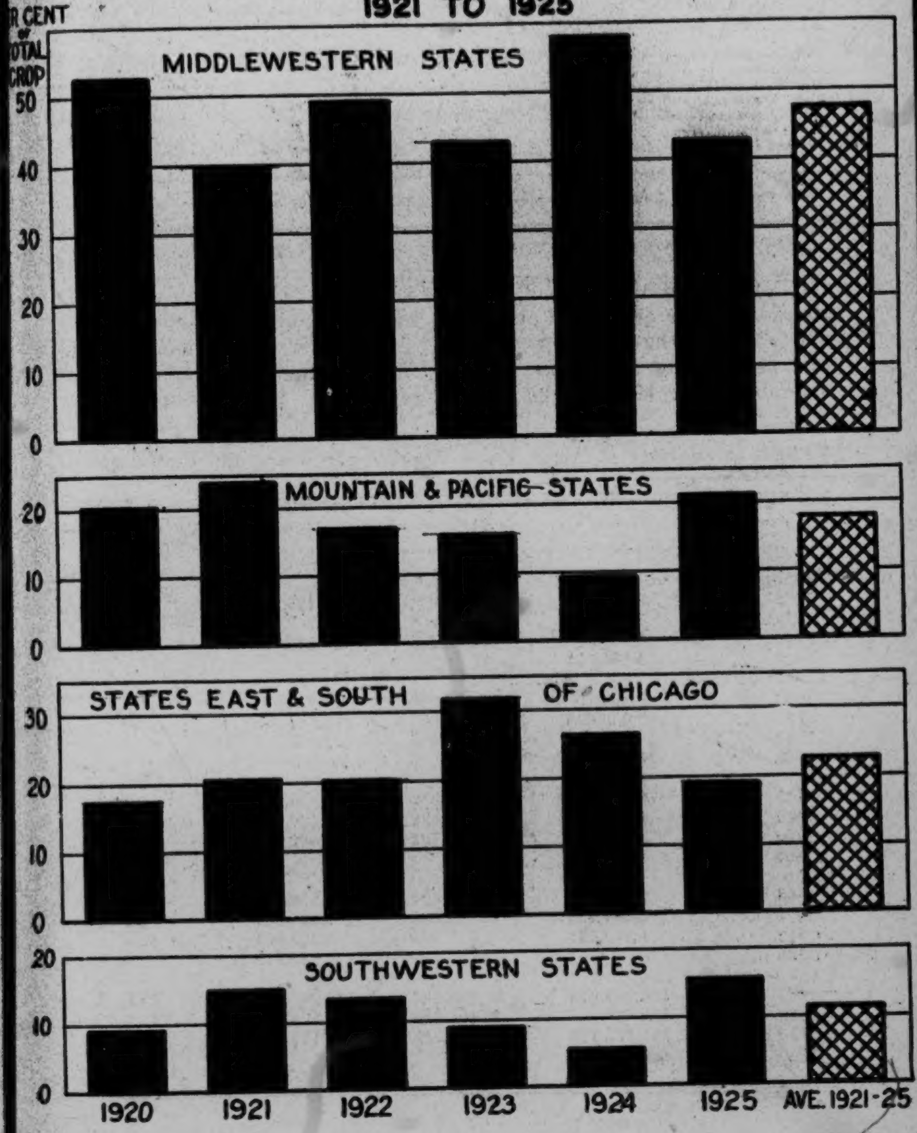


TABLE 57—Destinations of Idaho Apples, 1920-1925*
(Percentage of total shipments to various geographic divisions of United States)

State groups	1920	1921	1922	1923	1924	1925	Simple average 1920-1925
Middlewestern states	52.9	39.8	49.0	43.0	58.2	43.2	47.7
Southwestern states	9.4	15.1	13.4	9.0	5.8	16.2	11.5
Mountain and Pacific states	20.6	24.1	17.1	16.2	9.5	21.3	18.1
Total states east and south of Chicago	17.5	20.9	20.5	31.7	26.4	19.3	22.7
Great Lake states east of Chicago	7.4	7.7	11.2	15.5	13.0	7.5	10.4
North Atlantic states	7.6	10.9	7.2	12.8	9.3	10.5	9.7
Southeastern states	2.5	2.3	2.1	3.4	4.1	1.3	2.6
Total Pacific Fruit Express shipments	100.0	100.0	100.0	100.0	100.0	100.0	

* From Pacific Fruit Express special reports.

UNITED STATES PRODUCTION. Table 58 is presented to show the trend in the number of apple trees in the several important producing states and for the country as a whole. The total number of both bearing and non-bearing apple trees in the United States has decreased considerably since 1910. The percentage of total trees of non-bearing

TABLE 58—Number of Apple Trees, Leading States and the United States, 1900-1925*.

Area	Bearing age	Non-bearing age	Total	Percent of non-bearing trees
Virginia				
1925	8,060,674	2,344,421	10,405,095	22.5
1920	7,385,277	2,857,007	10,242,284	27.9
1910	7,004,548	3,435,591	10,440,139	32.9
1900	8,190,025			
New York				
1925	9,454,127	2,457,970	11,912,097	20.6
1920	9,636,698	2,932,281	12,568,979	23.3
1910	11,248,203	2,828,515	14,076,718	20.1
1900	15,054,832			
Washington				
1925	6,759,672	1,049,849	7,809,521	13.4
1920	7,961,167	755,898	8,720,065	8.7
1910	3,009,337	4,862,702	7,872,039	61.8
1900	2,735,824			
Idaho				
1925	1,760,648	127,894	1,888,542	6.8
1920	2,380,523	144,088	2,524,611	5.7
1910	1,005,668	1,539,896	2,545,564	60.4
1900			982,349	
United States				
1925	104,589,000	34,658,000	139,247,000	24.9
1920	115,309,165	36,195,085	151,504,250	23.9
1910	151,322,840	65,791,848	217,114,690	30.3
1900	201,794,764			

* Federal census data.

age, however, showed a slight increase from 1920 to 1925 for the country as a whole, altho the actual number decreased.

The enormous decrease in the number of apple trees in the United States is due to the fact that farm orchards have been neglected and have not been replanted. Much of the decrease, too, has come from sections where the crop is uncertain due to freezing and drouth conditions. However, despite the great decrease in the number of apple trees there has been no corresponding decrease in production in the past few years, although total apple production is less than it was 15 to 20 years ago. The trend for the 15-year period, 1910-1925, was down.

The number of trees in commercial orchards has been increasing, and the production per tree in these orchards is so much larger than in farm orchards that total apple production has been increasing in the later years even though the total number of trees has been decreasing. (See Table 59.)

PRICES. Prices received by Idaho producers in recent years have not been satisfactory. This is evidenced by the fact that many have removed their orchards, or part of them, and have not replanted extensively. Transportation expenses and other costs have remained at comparatively high levels.

Table 60 shows the average yearly price of apples paid to producers in Idaho from 1914-1915 to 1925-1926. The yearly average was calculated by weighing the monthly prices according to the monthly movement of the crop to market and was calculated on a crop-year basis, July to June. This corresponds more closely to the actual average price received by producers than the simple average. Apple prices trended upward during the war years and thru 1919-1920. From 1920-21 to 1922-23, prices fell again but then recovered somewhat in 1924-1925.

TABLE 59—Commercial Apple Production in Important States*.

(Number of barrels)

Year	United States	Virginia	New York	Maryland	West Virginia	Michigan	Washington	Idaho
1916	26,747,000	2,179,000	5,544,000	311,000	1,140,000	1,414,000	4,892,000	
1917	22,341,000	1,687,000	2,058,000	263,000	688,000	515,000	4,620,000	873,000
1918	24,743,000	1,766,000	5,950,000	315,000	1,092,000	1,495,000	4,296,000	112,000
1919	26,159,000	1,653,000	2,975,000	177,000	618,000	1,050,000	7.167,000	1,008.000
1920	33,905,000	1,988,000	6,500,000	399,000	1,340,000	3,167,000	5,731,000	756,000
1921	21,557,000	80,000	3,300,000	20,000	130,000	1,208,000	8,300,000	1,359,000
1922	31,945,000	1,400,000	6,000,000	280,000	381,000	1,699,000	7,341,000	1,150.000
1923	35,936,000	1,950,000	4,200,000	460,000	1,400,000	2,118,000	9,600,000	1,600,000
1921	28,063,000	2,520,000	3,738,000	314,000	800,000	1,000,000	6,275,000	600,000
1925	31,909,000	1,386,000	5,397,000	321,000	825,000	1,700,000	8,318,000	1,700,000

*United States Department of Agriculture Yearbooks, 1920-1925.

TABLE 60—Apples: Prices Paid to Producers in Idaho, 1914-1925*.

	(1) Weighted average price per bushel (2)	(2) All commodities index number (3)	(3) Adjusted price per bushel (4)	(4) United States farm price index number (5)	(5) Adjusted price per bushel (6)
1914-15	$ .78	100	$ .78	101	$ .773
1915-16	.85	103	.825	101	.842
1916-17	1.41	129	1.090	119	1.185
1917-18	1.01	180	1.263	180	1.263
Average 1914-15 to 1917-18	1.012		.990		1.016
1918-19	1.78	198	.900	206	.865
1919-20	1.95	210	.930	215	.906
1920-21	1.48	230	.643	214	.692
1921-22	1.30	150	.866	119	1.092
Average 1918-19 to 1921-22	1.628		.835		.888
1922-23	.92	152	.605	124	.741
1923-24	.92	157	.586	137	.672
1924-25	1.55	152	1.020	140	1.107
1925-26	1.15	162	.710	154	.746
Average 1922-23 to 1925-26	1.135		.730		.8165

* Data from *Crops and Markets*, monthly supplements; *weather, Crops and Markets; Monthly Crop Reporter*.

(2) Monthly farm price weighted according to movement of the crop to market.

(3) U. S. Bureau of Labor statistics index of all commodities converted to five year base—1910-1914 equals 100.

(4) Price divided by all commodities index number.

(5) Calculated by Cornell University from prices paid producers as published by the U. S. D. A.

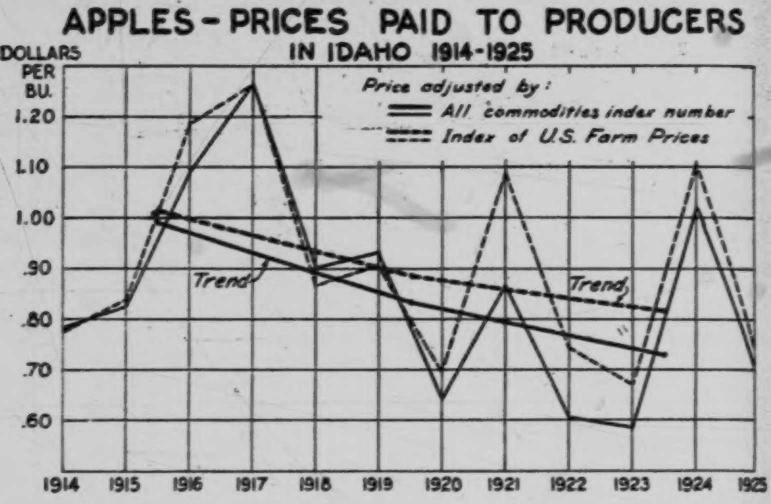
(6) Price divided by United States farm price index.

In order to eliminate the effect of changes in the general price level, apple prices have been adjusted by the Bureau of Labor Statistics all-commodities index number as shown in columns 2 and 3. The downward trend in purchasing power is readily apparent. The average adjusted price for the first four-year period was $0.99, the average for the second $0.83, and the average for the third, $0.73. Column 5 is the price adjusted by the United States farm price index number. Here again the trend has been downward.

Figure 26 represents the situation graphically.

SUMMARY. The apple industry is the most important of the fruit enterprises in Idaho. Considerable plantings of apple trees were made from about 1908 to 1912, but in recent years the actual number of trees

FIGURE XXVI



has been rapidly decreasing. The trend in the total number of apple trees in the United States has been decidedly downward since 1910.

Total apple production is less than it was 15 to 20 years ago, but in more recent years the trend seems to have been upward again, due especially to the fact that commercial orchards have been increasing and the production per tree is much larger than formerly.

The yearly average price of apples to producers in Idaho has trended downward since 1914-1915, when the effects of changes in the general price level have been removed.

All important factors considered, it seems that an increase in commercial plantings is hardly justified at the present time.

TABLE 61—Peach Production and Farm Value, Dec. 1, Idaho* 1919-1925

Year	Production (bushels)	Per unit $	Total $
1919	293,000		327,400
1920	42,000		121,800
1921	150,000	1.75	263,000
1922	244,000	1.55	378,000
1923	282,000	1.08	305,000
1924	102,000	2.00	204,000
1925	23,000	1.90	44,000

* State statistician's reports.

The Peach Situation

From the standpoint of commercial importance the peach crop in Idaho ranks low, and is trending downward. (See Table 61.)

The total farm value was greatest in 1922 when the crop was valued at $378,000, and lowest in 1925 when it was valued at only $44,000. In the spring of 1925 about 85 percent of the peach buds were killed by frost in the Boise Valley and elsewhere, which accounts for the short crop in that year.

MARKETS. Carlot shipments of peaches reported shipped from Idaho from 1920 to 1925 were as follows:

1920 — 189 cars
1921 — 105 cars
1922 — 124 cars
1923 — 392 cars
1924 — 47 cars
1925 — 2 cars

The greater part of these shipments have been made to the middlewest, mountain and coast states. Local markets have absorbed a considerable portion of the crop each year, especially in years of low production in farm orchards.

OUTLOOK. Because local market demands already are more than cared for in many districts, we may expect the outlook in Idaho to be influenced directly by the national outlook. The University of California College of Agriculture published a circular in April of 1926 on peaches, in which the following conclusions were drawn.

> "The trend of purchasing power of canning peaches is not likely to rise above the present level within the next few years, because:
>
> 1. Production is increasing. New plantings are more than sufficient to maintain the present bearing acreage. These are being made in localities in which the yield per acre is high.
> 2. The production of competing products such as pineapples, pears, apricots and cherries is also increasing.
> 3. The buying power of consumers as indicated by wages and employment, has been at a high level since 1922; and it can not be expected that this buying power will increase to any considerable extent in the near future. Furthermore, the trend of purchasing power may continue to decline unless the present rate of plantings is decreased or unless the demand for peaches should increase."

It would seem unwise, therefore, to consider any general expansion of the peach acreage in Idaho.

Pears

The pear industry is of minor importance in Idaho at the present time. In 1900 there were 128,907 trees as compared with 95,991 in 1920. Table 62 is presented to show the extent of the industry during the past few years.

TABLE 62—Pears: Production, Price and Total Value, Idaho, 1921-1925*.

Year	Production (bushels)	Farm price Dec. 1	
		Per unit	Total value
1921	55,000	2.90	160,000
1922	72,000	1.75	126,000
1923	72,000	1.76	127,000
1924	60,000	1.65 (2)	99,000
1925	39,000	2.10 (2)	82,000

(2) Nov. 15 price.
* Data from state statistician.

Pear blight has been the most serious scourge of the pear orchards thruout the United States, and it is doubtless the greatest limiting factor in American pear culture. In Idaho the problem is very serious at the present time.

Cherries

The cherry industry has increased in Idaho since 1900. From 1910 to 1920 the total number of trees more than doubled. (See Table 63).

TABLE 63—Number of Cherry Trees, Idaho, by Districts, 1900-1920*.

Area	1900		1910		1920			
					Non-bearing	Bearing	Total trees	
	No.	%	No.	%	No.	No.	No.	%
Upper Snake	1958	3.9	2426	3.9	1148	5641	6789	4.7
Southeast Idaho	801	1.6	1322	2.1	804	3007	3811	2.7
South central	1632	3.2	3135	5.1	5333	22886	28219	19.7
Southwest	18682	36.7	19252	31.1	6432	40323	46755	32.6
Palouse	24858	49.0	31258	50.5	7984	35213	43197	30.0
North Idaho	1992	3.9	4202	6.8	4023	9881	13094	9.1
Lemhi	309	.6	286	.5	153	721	874	.6
The State	50778		61881		25877	117672	143549	

(1) Federal census data—cherry tree census not given in 1925.

It will be observed from this table that the southwest and Palouse districts are the most important producing areas, altho the south central and north Idaho districts have shown some increase.

The expansion of the cherry industry has been general in the northwest. California, Oregon and Washington are considerably more important than Idaho in cherry production.

Carlot shipments of cherries from Idaho for the years 1920 to 1925 ranged from 68 cars in the year of lowest shipments to 176 cars in the year of highest shipments. Nezperce County has been the most important shipper. Cherries sold in local markets are of course not reflected in carlot shipments.

Table 64 shows that California makes heaviest shipments in May; Idaho, Oregon and Washington in June, and Michigan, New York, Wisconsin and other states in July and August.

Idaho is, therefore, at somewhat of a disadvantage as her crop must move at the season of the year when shipments are heaviest.

TABLE 64—Carload Shipments of Cherries, 1925*.

States	April	May	June	July	August	Total
Calif. N. D.	7	377	140	—	—	524
Calif. C. D.	—	86	109	—	—	195
Colorado	—	—	1	18	—	19
Idaho	—	4	99	4	—	107
Michigan	—	—	15	230	41	286
New York	—	—	45	145	21	211
Ohio	—	—	—	5	—	5
Oregon	—	2	149	42	3	196
Tennessee	—	3			—	3
Utah	—	—	33	60	—	93
Washington	—	1	436	60	—	497
Wisconsin	—	—	—	139	23	162
Total	7	473	1027	703	88	2298

* Bureau of Agricultural Economics. Feb. 1, 1926. Subject to revision.

TABLE 65—Fruit and Vegetables Packed in Idaho, 1919 to 1925 Inclusive. (Cases) (1).

Commodity	1919	1920	1921	1922	1923	1924	1925
Apples	30,518	27,025	47,071	41,139	52,027	49,900	85,680
Cherries	23,694	30,398	17,684	29,813	42,341	5,509	31,445
Pears	2,070	18,993	——	5,691	2,450	784	——
Prunes	12,869	5,060	——	765	2,600	——	——
Peaches	116	——	——	1,190	2,000	1,144	——
String beans	982	4,200	——	——	150	1,292	1,660
Tomatoes	21,689	31,619	——	29,926	26,074	6,611	41,415
Strawberries	——	500	1,154	622	5,597	——	229
Corn	——	4,000	8,500	11,000	28,000	28,924	95,000
Gooseberries	——	——	419	371	1,070	——	——
Peas	——	——	——	8,350	10,000	13,446	21,000
Misc fruits & Vegetables	3,317	6,550					
Jams, jellies & Preserves							89
Totals	95,255	128,445	74,828	129,387	172,309	107,610	276,518

(1) Source of information: Northwest Canners Association.

The Canning Industry

Canning factories afford a market outlet for many fresh fruits and vegetables that could not otherwise be marketed. The growth and extent of the industry is indicated in Table 65, which shows the fruit and vegetables packed in the state from 1919 to 1925. While year-to-year fluctuations have been great, there has been an increase in the amount of canned goods packed over the period.

Destinations of all canned goods shipped from Idaho are shown in Table 66, as obtained from special reports of the Pacific Fruit Express. Western states have received, on the average more than half of total yearly shipments, while the southwest group of states has averaged second. Comparatively few shipments have been made to states in the Middlewest and East.

TABLE 66—Destinations of Canned Goods from Idaho, (Carloads) 1920-1925(1)

State Groups	1925	1924	1923	1922	1921	192
North Atlantic	2					
Southeast	—	5	20	4	—	—
East N. Central	—	2	6	12	8	1
Southwest	11	28	31	46	22	
Western	186	105	33	48	82	2
Idaho	35	11	9	3	7	
Total	234	140	99	110	112	4

(1) Pacific Fruit Express special reports.

The Prune Situation

According to the federal census of 1925 there are approximately 700,000 prune trees in Idaho. This is estimated to be the equivalent of about 10,000 acres. Most of the prunes are of the Italian variety. The product is marketed almost entirely in the fresh stage. In 1926 several million pounds of prunes were dried. The following table gives the available facts in reference to trees, acreage, production, price and value of the prune industry in Idaho for the past six years:

TABLE 67—Prunes: Acreage, Number of Trees, Production, Price, and Farm Value, Idaho, (1).

Year	Trees (census)	Acres (estimated)	Production (ton)	Farm Value	
				Per unit	Total
1920	633,080			$ —	$ —
1921	—		28.000	35.00	980,00
1922	—		22,500	30.00	675,00
1923	—		32.000	22.00	704,00
1924	—		13.000	32.00	416,00
1925	719,008	10,000	15,000	45.00	675,00

(1) Census and state statistician's estimates.

Eighty-five percent of the acreage is located in the Boise and Payette River Valley counties. The balance is in the Twin Falls and Lewiston-Moscow districts, the two being about equal in extent. Ada County has about three times as many trees as any other county.

Acreage almost doubled between 1919 and 1925. Practically no new plantings however, were set out during 1926. The heaviest plantings were made during the season of 1922-1923, principally in Ada, Canyon, Gem, Washington and Payette counties. It is estimated that the production has reached its peak if old orchards are pulled as they pass their prime and no new plantings are made. Production will probably remain more or less stationary, this being provisional, of course, upon the relative profitability of prunes and other enterprises.

PRODUCTION. By far the greatest part of the crop is sold in the fresh stage, when the prune is frequently called the "blue plum." Only a small amount of the fruit is dried. Idaho production is only a small percentage of the total United States production of all prunes, but from the standpoint of fresh prunes marketed as such, Idaho normally ships around 50 percent of the crop. Carlot shipments for the past 10 years have varied from 500 to 3,000 cars. The fluctuation has been due largely to climatic conditions, altho unfavorable prices in consuming markets some years, and high expenses of marketing have tended to reduce shipments in years of low prices.

The principal section competing for the fresh prune market is the area around Walla Walla in south central Washington and around Milton-Freewater in north central Oregon. This section usually begins marketing about four weeks earlier than Idaho and has its crop all shipped a week before Idaho starts. Attempts by growers in the Willamette Valley of western Oregon to ship their prunes green have not met with success. Instead, virtually all the latter crop is dried, with a small part canned fresh. Idaho prunes are among the last stone fruits to be offered the consumer.

PREPARATION FOR MARKET. Grading and packing are handled in two different ways. In some instances the grower picks, grades and packs his own prunes and then offers them for sale in loaded carlots. Other growers pick the prunes and haul them field-run, directly to a warehouse where the distributor grades and packs them. The distributor buys or handles the product on consignment, after it is packed. The fruit is generally packed in two styles of packages, either the suit case or the four basket crate. Most of the grower's pack (where the grower does the grading himself) is in suit cases or half bushel baskets. The grower generally does not attempt to put out a highly sorted pack. Where the fruit is run thru a centrally located warehouse, it often is packed in four-basket crates. This method of packing requires a higher degree of skill on the part of the packers and a more expensive package. The practice of packing the prunes, either by shaking or pressing them into suit-case boxes or one-half bushel baskets without any particular regard to arrangement, probably was brought about by the shortage of labor during the war and has continued into the present period. During the past two or three years the trend seems to be toward the practice of packing in four-basket crates, or faced lugs. Net returns show, according to growers reports, that the four-basket crate has been the most profitable package in the last two years. This is practically the only style of container and pack used for export.

The grade of Idaho fresh prunes, at present, seems high enough to meet the trade demand. The factor of maturity apparently is one of the most important requirements, as the Italian prune from Idaho handles and ships well after it has reached full maturity and has attained a high sugar content. Records of shipments show that the Italian prune from Idaho generally is in good shape from 20 to 28 days after loading and shipping under ordinary transit conditions. Grade factors which affect the appearance are next in importance to the trade. Apparently no advantage can be gained by permitting in United States No. 1 grade a greater amount of defects which affect the appearance. It also would seem advisable to raise the minimum size requirements to one and one-eighth inches in diameter.

HARVESTING AND PACKING EXPENSE. The expense of picking, hauling, sorting, packing and loading varies somewhat from year to year, as does the cost of box materials used in the suit cases and four basket crates. Ordinarily the suitcases cost from 7 cents to 8 cents each, the picking of the prunes about one fifth cents per pound, which would make about 3 and a third cents per suitcase. Sorting, packing, and loading into cars costs about 7 cents to 8 cents per suitcase. This brings the total usual cost of harvesting, hauling, grading, packing, package and loading, where suitcases are used, up to a total of approximately 20 cents per case. Other package costs range somewhat higher, the faced lug pack generally costing about 4 cents more than suitcases while the total cost of putting out the four-basket crate is from 8 cents to 10 cents more than the suitcase. This shows that the expense of harvesting and packaging the Italian prune is slightly in excess of 1 cent per pound, as the weight of the prunes contained in the suit case usually is about 17 pounds while the average weight for the four-basket crate is about 24 pounds.

When the usual expense of growing prunes—items such as pruning, spraying, cultivation, fertilization and irrigation—is added to this harvesting expense, it is quite apparent that prices of 30 cents per suit case or 40 cents per four basket crate net to the grower are hardly adequate to more than take care of the out-of-pocket cost, and the prune grower gets little for his efforts unless prices are higher than these figures.

MARKETS. A study of the final destinations of prune shipments from Idaho for the past six years shows that the crop is fairly well distributed thruout the middlewestern and eastern states, while all of the fifteen southern states have received not more than 32 carloads per year, more than half of which went to Oklahoma and Texas. Largest shipments to the eastern states have been to New York and Pennsylvania. New York leads all of the other states with an average of 318 cars per year. The states of Michigan, Ohio, Illinois, Iowa, Kansas, Minnesota, Missouri, Nebraska, and Wisconsin have received each year a large number of shipments from Idaho. Contrary to the general idea this record shows that the Idaho Italian prune enjoys at least a fairly wide distribution as to final destination, regardless of the fact that many of these destinations are reached thru secondary shipments out of large centers such as Kansas City, St. Louis, Chicago, and other diversion points. The fact that Idaho prunes are distributed in 41 states and that this distribution has remained fairly constant as to proportion of cars to each state every year seems to indicate that the low prices obtained are not wholly due to lack of a wide distribution. At least, the records did not show that there has been any great change in the distribution of prunes within the United States.

One of the recent and most promising developments is the export outlet to England and Scotland.

SUMMARY AND OUTLOOK. The production of prunes in Idaho has gradually been shifting to the favored sections where uniform yields of quality prunes are more assured. This shift will continue, in all probability, until the newer plantings are all matured and old trees are pulled out in sections where poor soil, frost, and water hazards make profitable production difficult. Other producing sections, principally the Walla Walla and Milton-Freewater districts in Washington and Oregon, respectively have a seasonal advantage. Shipments start four to six weeks earlier than in Idaho and generally are completed before Idaho starts. The tendency is for the housewife consumers to secure their supply from the earlier shippings and the only time Idaho has any advantage is when all fruits are scarce and high priced. Prices have not been favorable for several years for the maintenance of the present acreage.

Under the present system of marketing, to state the facts plainly, growers and packers simply start rolling the fruit towards the market, with no definite and assured sales in sight. The result of such a system is that no one is able to make definite sales f. o. b. loading points as distributors will not buy at present on that basis, because they fear loss from declining markets. It is possible that the sales resistance of consumers might be lessened if the product could be marketed as an Idaho blue plum and advertised under an attractive brand.

The Small Fruit Situation

Small fruit production is relatively unimportant in Idaho. The total acreage of small fruits in 1909 was 1673, and 1240 acres were grown in 1919. Table 18 shows the acreage, production and value of the several small fruits in Idaho as given in the census reports of 1910 and 1920. The only small fruit crop on which statistics were gathered in the 1925 agricultural census was strawberries.

TABLE 68—Small Fruits: Acreage, Production and Value, Idaho, 1919, and 1909.*

Crop	Farm reporting		Acres harvested	Production	
	Number	Percent of all farms		Quantity (quarts)	Value ($)
Total 1919	5,543	13.2	1,240	1,106,208	225,678
Total 1909	——	—	1,673	2,071,141	201,526
Strawberries 1924	——	—	397	——	——
Strawberries 1919	2,340	5.6	469	494,818	103,916
Strawberries 1909	1,605	5.2	698	953,723	92,904
Raspberries 1919	2,914	6.9	440	375,777	78,914
Loganberries 1919	149	0.4	15	9,733	2,044
Raspberries and Logans 1909	2,086	6.8	496	575,209	59,854
Blackberries and dews....1919	735	1.7	135	91,056	19,122
Blackberries and dews 1909	590	1.9	170	249,984	24,688
Currants 1919	1,191	2.8	109	72,000	12,245
Currants 1909	1,374	4.5	167	161,230	13760
Other berries 1919	1,051	2.5	72	62,824	9,438
Other berries 1909	——	—	142	130,995	10,319

* From Idaho supplement, 1920 census, Table 37, p. 51.

Growing of small fruits on a commercial scale in Idaho is a questionable venture. They can be grown in a limited way very successfully where local markets furnish a demand that will absorb the product, but the lack of canning factories and the expense of transportation to outside markets are serious handicaps to the development of the small fruit industry in the state. There are many other enterprises for which the land can be utilized that assure a more dependable income.

The Head Lettuce Situation

One of the outstanding features of vegetable production in Idaho the past few years has been the rapid growth and subsequent decline of the head lettuce industry. Lettuce has been produced commercially in the Lewiston Valley in a more or less limited way since 1913. The first commercial production in the southern part of the state was in the fall of 1919 when an acre was grown near Boise which netted the grower around $800.00. There was such a demand for Idaho head lettuce that a considerable acreage was planted in 1920.

The acreage, yields and values per acre since 1919 are shown in the following table:

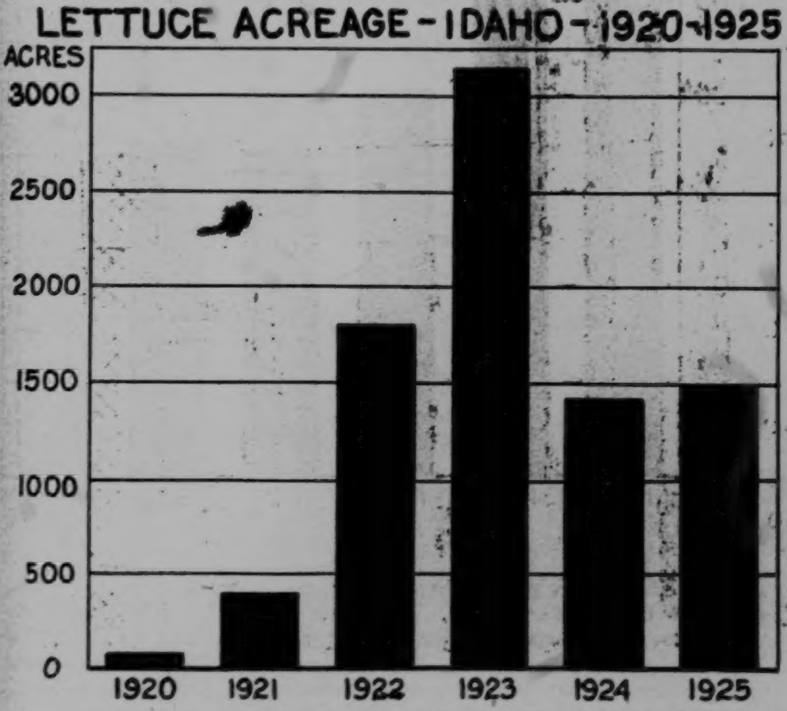
TABLE 69—Lettuce: Acreage, Yield, Price and Value per Acre, Idaho, 1919-1925.

Year	Acreage	Yield per acre (crates)		Price per crate $	Value per Acre $
1919 ..	1	*	**		
1920 ..	80	230			
1921 ..	400	250	200	1.75	350.00
1922 ..	1800	270	170	2.00	340.00
1923 ..	3150	138	161	1.27	204.44
1924 ..	1420	135	157	1.10	172.70
1925 ..	1500	120	155	1.15	178.25
5 yr. Av. ..		183	169	1.45	249.

* Bureau of crop estimates.

**State Agricultural statistics.

FIGURE XXVII



The trend is pictured graphically in Figure 27. From 1920 to 1923 the acreage increased very rapidly, increasing from 80 acres in 1920 to more than 3000 acres in 1923. The next two years showed a decided falling off. Figure 28 shows graphically values per acre for the five-year period. Yearly fluctuations have been considerable and show the hazards of lettuce as a cash crop. These hazards have had to do with both price and production.

FIGURE XXVII

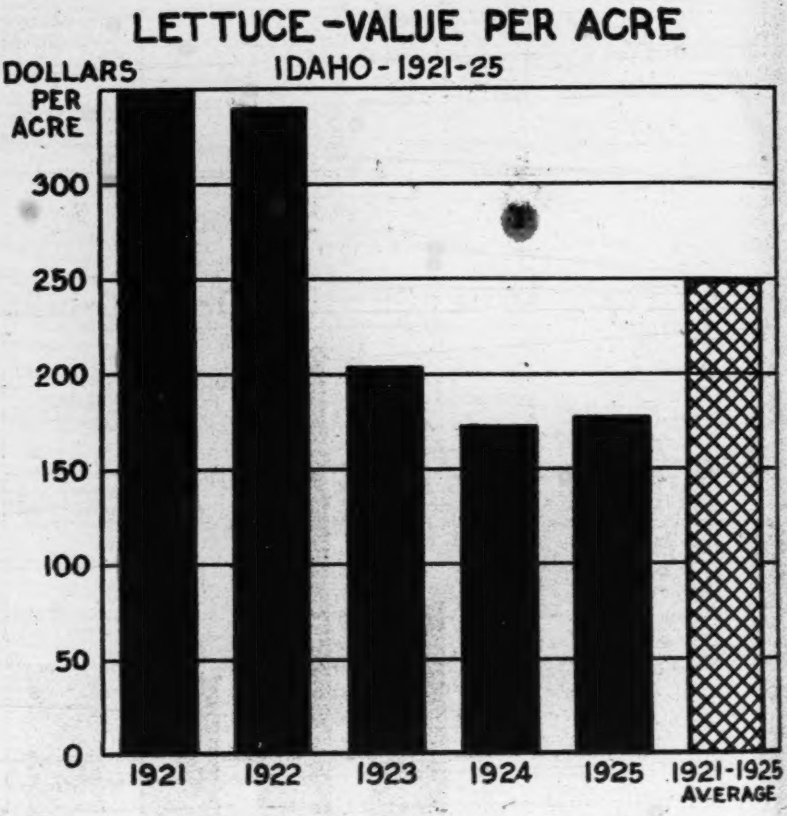


Table 70 indicates clearly the monthly and seasonal nature of Idaho shipments from 1923 to 1925. There are really two crops, the early and the late, the late crop constituting a large proportion of the total. The crop moves as harvested, very little being stored. The trend in total yearly shipment has been decidedly downward. Shipments in 1925 amounted to 30.5 percent of those in 1922.

Idaho compares favorably with other late producing states in yield and price per unit. (See Table 71). In fact, average prices seem to be

TABLE 70—Lettuce: Carlot Shipments from Idaho*.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1920 1921													
1922													706
1923	2	0	0	0	0	98	53	1	12	376	241	5	788
1924	1	0	0	0	3	26	0	0	0	73	104	2	209
1925	1	1	0	0	0	30	0	0	3	83	95	4	217
Total	4	1	0	0	3	154	53	1	15	532	440	11	1214
Aver.	1.3	.3	0	0	1	51 3	17.6	.3	5	177.3	146.6	3.6	404.3

* Data from Pacific Fruit Express.

TABLE 71—Lettuce: Average Yield, Price per Crate and Acreage, Idaho and Competing States*.

State	Yield per acre (1921-25 av.)	Price per crate (1921-25 av.)	Acreage		
			1923	1924	1925
Late Crop					
Idaho	163	1.72	3150	1420	1500
Colorado	163	1.69	6710	5600	10500
Washington	281	1.63	2000	1400	1720
New York	175	2.15	7150	6290	6520
Early crop					
California	205	1.54	24700	33020	49320
Unit. States	205	1.68	57990	63550	86400

* U. S. Department of Agriculture *Yearbooks*.

a little higher in Idaho than in either Colorado or Washington. The expansion of the early crop has been tremendous in California, acreage having doubled from 1923 to 1925. In the case of the late crop Colorado has increased her acreage greatly. New Jersey, New York and Washington are also important in late crop production. The growth of the industry for the country as a whole has been rapid, commercial acreage having increased from 31,460 in 1921 to 86,400 in 1925.

The extent of competition faced by Idaho growers is indicated in Table 72.

From this table it can be seen that Idaho is the heaviest shipping state from October 14 to November 3, with California furnishing the most competition at this time. Colorado and New York are just clearing up

TABLE 72—Weekly Carlot Shipments for the United States During Period of Idaho's Fall Movement,* 1923.

Section	Sept. 30-Oct. 6	7-13	14-20	21-27	28-Nov 3	4-10	11-17	18-24	25-Dec. 1
Old crop									
Colorado	132	96	23	14	14	3	—	1	1
Idaho	23	111	187	239	170	110	67	24	5
New Jersey	—	—	16	50	79	103	78	54	25
New York	160	76	84	23	3	—	3	—	—
Oregon	6	19	15	23	29	15	8	3	—
Washington	14	17	6	4	5	1	2	—	4
Other sections	32	37	30	25	22	5	5	21	12
New Crop									
Northern California	72	79	91	105	115	127	144	132	101
Southern California	—	—	11	20	58	78	162	207	190
Florida	—	—	—	—	—	—	11	87	203
Arizona	—	—	—	—	—	—	—	9	14
Weekly totals	439	435	436	503	495	442	481	538	555
Same week 1922	329	369	364	339	267	302	444	358	350
Same week 1921	327	319	285	248	180	299	523	317	352

* U. S. Bureau of Agricultural Economics.

their crop while New Jersey is just starting. The Oregon and Washington late crop shipments do not affect Idaho to any great extent.

The Onion Situation

Onions are produced commercially under irrigation in Idaho, in the vicinity of Filer, Buhl, Twin Falls, Rupert, Boise, Caldwell and a few other centers. The following table gives acreages, yields and values per acre for the state as a whole.

It will be observed from this table that yields and values per acre are exceptionally high. The average yield per acre for the years 1921 to 1925 was 441 bushels, having an average value of $582. Yields exceeding 800 bushels per acre are sometimes reported. Idaho often has led all states in yield per acre.

When compared with the total commercial late onion acreage in the United States, Idaho's acreage is rather insignificant, having been only 1.3 percent of the total from 1920 to 1925. For the year 1925 alone, however, it amounted to 4.4 percent, indicating that onion production has been increasing at a fairly rapid rate.

In order to show a little more clearly the relative importance of commercial onion production by districts Table 74 is presented, giving car-

TABLE 73—Onions: Acreage, Yields, Production, and Value per Acre, Idaho (1), 1918-1925.

Year	Acreage	Yield per acre	Price per bu.	Value per acre	Production bu.
1918	30	575			
1919	61	500	2.40	1200.	30500
1920	275	558	1.99	1110.	133600
1921	145	470	2.00	940.	68000
1922	300	460	1.50	690.	138000
1923	300	425	1.11	471.75	128000
1924	400	400	.87	348.	160000
1925	1200	450	1.10	495.	530000
1921-25 Average	469	441	1.32	582.	204800

(1) State statistician's reports.

TABLE 74—Carlot Shipments of Onions, Idaho by Districts,* 1922-26.

District	1922-23		1923-24		1924-25		1925-26	
	No.	Per-cent	No.	Per-cent	No.	Per-cent	No.	Per-cent
Upper Snake	4	8.2	3	1.2	1	.3	16	1.7
Southeast Idaho	5	10.1	7	2.8	3	.9	9	1.0
South Central Idaho	23	47.0	97	39.1	126	37.6	373	40.0
Southwest	17	34.7	141	56.8	205	61.2	536	57.2
Palouse	—	—	—	—	—	—	2	—
North Idaho—								
The state	49	100.	248	100.	335	100.	936	100.

* Data from state statistician.

lot shipments from 1922 to 1925. Carlot shipments increased from 49 cars in 1922-1923 to 936 cars in 1925-1926.

The greater part of the onion crop in Idaho is marketed in the months of September, October and November. Very few are stored on farms. Under the present method of distribution most carlot shipments are sold thru wholesale distributing agencies. The cost of growing, harvesting, and hauling a crop of onions to a shipping point varies considerably depending on the yield per acre and other factors, but usually will range from 75 cents to $1.00 per sack of 100 pounds. Table 75 shows the character and extent of Idaho's competition.

TABLE 75—Commercial Late Onions: Acreage, Yield and Value per Acre, Idaho and Other States*

State	ACREAGE				Yield per acre 1920-25 (ave. in bu.)	Value per acre 1920-25 (ave. in $)
	1921	1923	1925	Average 1920-25		
Calif.	7900	7010	5650	6732	279	229
Colorado	1300	2360	3520	2162	294	262
Idaho	140	300	1660	513	449	408 (1)
Indiana	4180	5900	4620	5424	314	285
Massachusetts	4500	3360	3820	4045	355	367
New York	7280	7390	8680	7880	355	372
Ohio	5080	5700	2860	5251	306	273
Total above	30380	32020	30810	31070	331	313
U. S. aver. total			37440	38561	330	303

* *Weather, Crops and Markets,* Vol 4, No. 26.

(1) Values per acre shown here are lower than those shown in Table 79. For the purposes of comparison with other states the above figure is perhaps safer to employ.

OUTLOOK FOR ONION PRODUCTION. Is it wise for producers to continue expanding their acreage, or has expansion gone far enough? The answer to this question is of course contingent upon the relative profitability of onions in the future as compared with competing crops. This in turn is influenced by the price received, yields per acre, and cost per acre of onions and of competing crops.

The national situation at the present time seems to indicate that an appreciable cut in the acreage of main crop onions is needed to avoid over-production such as probably would have come in 1926 but for rather light yield and extensive crop damage. Total onion planting in 1926 exceeded the 10-year average by 20 percent. Acreage of the main crop states was 26 percent greater than for either of the two years preceding and the trend in most leading states is upward. An average yield of good quality would have brought a record breaking production such as has almost invariably resulted in disastrous market conditions, as the demand for onions is closely limited and does not vary greatly from year to year.

It was shown earlier in the discussion that yields and values per acre averaged very high from 1921 to 1925. On the other hand the hazards of the crop are great, both as to prices and as to danger of frosts. During the harvest season of 1926, for example, a very large proportion of the onion crop was destroyed by frost in the Boise Valley and around Twin Falls. These hazards must be weighed against the possibilities of producing a very profitable crop in good years. It seems advisable that farmers who grow onions should not rely upon them as their sole source of cash income, but rather grow other cash crops along with onions as an insurance against the uncertainties of producing only one crop.

Livestock Enterprises

The Swine Situation

The swine enterprise in Idaho has increased rather slowly during the past 25 years. Table 76 shows that in 1910 there were 178,000 swine on farms in Idaho. The number increased constantly through 1916, in which year the number was placed at 344,000. During the war years there was a decline and not until after 1922 did swine show any appreciable increase in number. 1924 shows the greatest total, 378,000 swine on farms, the number falling back to 325,000 in 1925.

TABLE 76—Number of Swine on Idaho Farms, 1900-1925.(1)

Year	Number	Year	Number
1900	114,000	1918	219,000
1910	178,000	1919	208,000
1911	196,000	1920	240,000
1912	212,000	1921	206,000
1913	233,000	1922	225,000
1914	252,000	1923	315,000
1915	328,000	1924	378,000
1916	344,000	1925	325,000
1917	292,000		

(1) State statistician's reports.

The following table shows the distribution of swine by districts.

TABLE 77—Hogs: Numbers and Percentage Distribution by Districts in Idaho, 1910-1925.(1)

Counties of	1910		1917		1918		1920		1925	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Palouse district	67,470	37.8	40,942	27.9	31,292	23.1	42,493	17.7	46,466	16.8
Upper Snake	40,040	22.4	18,257	12.5	22,718	16.7	67,184	28.0	70,843	25.6
Southwest Idaho	29,240	16.4	48,470	33.1	33,745	24.9	44,602	18.6	54,910	19.8
South central Idaho	22,010	12.3	23,609	16.0	27,769	20.5	49,805	20.7	67,057	24.4
Southeast Idaho	15,062	8.4	12,784	8.7	15,849	11.7	26,372	11.0	26,608	9.6
Rest of state	4,524	2.5	2,624	1.8	4,085	3.0	9,568	3.9	10,439	3.8
State	178,346	100.0	146,686	100.0	135,458	100.0	240,030	100.0	276,323	100.0

(1) Federal census data 1910-1920-1925.
Ida. Bureau of Markets 3rd and 4th annual reports, 1917-1918.

MARKET FOR IDAHO HOGS. The markets for Idaho hogs are virtually limited to coast and intermountain points. The percentaged distribution of shipments in 1925 was as follows: Portland, 31.7; Salt

TABLE 78—Percentage Distribution of Hog Shipments from Idaho, 1923-1925.(1).

Year	Portland	Seattle	Salt Lake	Ogden	Spokane	Tacoma	Other cities
1923	49.0	24.1	8.7	9.2	5.1	3.4	0.5
1924	41.5	17.8	17.8	14.0	4.8	4.3	0.1
1925	31.7	16.5	22.4	15.0	5.15	9.1	—

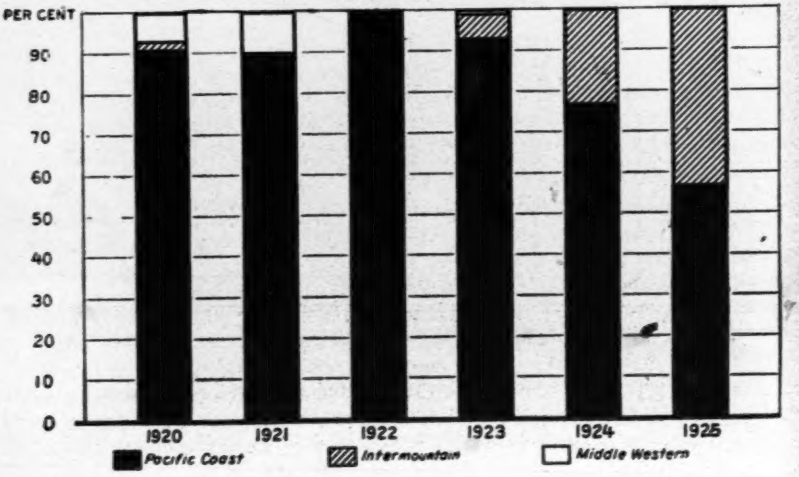
(1) Computed from data received from Union Stock Yards and packing companies. See Table 79.

Lake, 22.4; Seattle, 16.5; Ogden, 15.0; Spokane and other cities, 14.4. Table 78 shows the distribution from 1923 to 1925.

Ogden and Salt Lake have become increasingly important as markets for Idaho hogs. Data on hog shipments to Seattle are not available prior to 1923. Table 79 shows the actual data that are at hand. A few shipments were made to middlewest markets in 1920, 1921, and 1923, but these amounted to only a few percent of the total movement. Los Angeles and other coast cities are not listed, data being lacking. From January 1 to June 30, 1926, Idaho shipped 8,729 hogs to Los Angeles. The percentage of total hog shipments from Idaho going to coast, mountain, and eastern markets is shown graphically in Figure 29. The

FIGURE XXIX

PERCENTAGE OF TOTAL HOG SHIPMENTS FROM IDAHO GOING TO PACIFIC COAST, INTERMOUNTAIN, AND MIDDLE WESTERN MARKETS
1920 - 1925



increasing importance of Ogden and Salt Lake is shown by the upward trend of shipments to the intermountain district.

Hog receipts at the larger markets on the coast indicate that those markets must draw from outside sources to fill their demands. Los Angeles receives a large number of its hogs from Nebraska, Texas,

TABLE 79—Swine: Distribution of Total Annual Shipments from Idaho, 1919-1925.

Geographic Division and City	1919	1920	1921	1922	1923	1924	1925
Coast (4)							
Tacoma **	*	12,434	11,230	7,353	8,960	20,589	25,529
Portland ***	*	18,725	13,777	62,298	127,722	197,417	89,119
Seattle ***	*	*	*	*	62,920	84,834	46,230
Mountain							
Denver ***	—	385	—	—	—	136	—
Ogden ***	17,110	12,980	29,451	33,048	23,923	65,943	42,220
Salt Lake ***	19,832	11,408	11,822	13,647	22,563	84,868	62,887
Spokane ***	10,903	10,673	8,637	10,578	13,373	23,187	14,441
Missouri River							
Kansas City ***	*	314	—	—	—	—	—
St. Joseph ***	*	125	—	—	—	—	—
Sioux City ***	*	626	550	—	167	—	—
Middlewest							
Chicago ***	*	470	970	—	789	66	—
Total movement		(3)68,140	(3)76,437	(3)126,924	260,417	477,040	280,426

* No data available.
** Carstens Packing Company, Tacoma.
***Union Stock Yards companies—Ogden, Salt Lake, Spokane, Portland, Seattle, etc.
(3) Exclusive of Seattle
(4) California market data not available.

TABLE 80—States of Origin of Hogs at Portland, 1909-1925.(1).

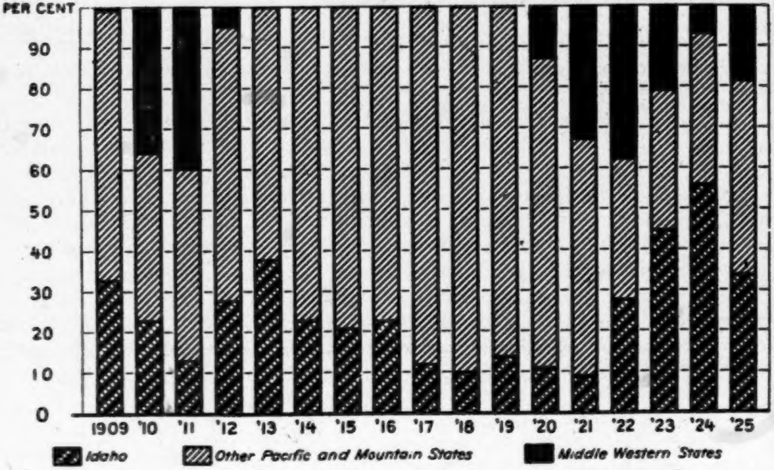
Year	Oregon		Idaho		Washington		Montana		California		Middlewest-		Total Number
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	
1909	20,301	56.0	12.048	33.2	3,549	9.8					365	1.0	36,263
1910	25,559	30.7	18.967	22.8	8,011	9.6			787	0.9	29,999	36.0	83,323
1911	29,624	34.7	11,055	13.0	6,083	7.1			4,772	5.6	33,739	39.6	85,273
1912	65,215	53.9	33,204	27.5	11,102	9.2	166	0.1	5,307	4.4	5,959	4.9	120,953
1913	94,319	50.1	70,960	37.7	19,771	10.5	958	0.5	2,278	1.2			188,286
1914	144,901	60.9	55,630	23.4	28,903	12.2	5.580	2.3	2,711	1.2			237,725
1915	202,804	66.9	63,432	20.9	32,666	10.8	3,884	1.4					302,876
1916	207,320	64.3	75,318	23.3	26,917	8.3	897	0.3	12,203	3.8			322,655
1917	154,828	69.8	26,238	11.8	10,790	4.9	664	0.3	29,167	13.2			221,687
1918	165,254	72.4	22,545	9.9	21,488	9.4	92	0.1	18,283	8.0	582	0.2	228,244
1919	143,007	69.8	29,469	14.4	16,901	8.3	2,479	1.2	12,629	6.2	385	0.1	204,870
1920	113,986	65.2	18,725	10.7	9,745	5.6			10,344	5.9	21,943	12.6	174,833
1921	70,215	46.8	13,777	9.2	12,946	8.6	1,507	1.0	2,055	1.4	49,493	33.0	149,993
1922	62,985	28.1	62,298	27.7	10,097	4.5	3,588	1.6	353	0.2	85,089	37.9	224,410
1923	80,148	28.0	127,722	44.6	11,918	4.2	5,511	1.9	305	0.1	60,861	21.2	286,465
1924	113,580	31.8	197,417	55.3	14,842	4.2	6,425	1.8	74	0.1	24,263	6.8	356,601
1925	91,713	34.5	89,119	33.6	15,726	5.9	19,942	7.5			48,995	18.5	265,495
Average		50.8		24.6		7.8		1.1		3.0		12.5	

(1) Report of Union Stockyards Company, Portland.

Oklahoma and other midwestern states as well as from the nearby states. Receipts of hogs at Portland by state of origin for the past 17 years are given in Table 86. During the past six years Portland has received from 7 to 38 percent of its hogs from middlewestern states, while Oregon, Idaho, and Washington supplied practically all the rest.

FIGURE XXX

SOURCES OF SUPPLY OF HOGS
Portland, Oregon, 1909-1925



In order to present the picture more clearly, the foregoing data are shown graphically in Figures 30 and 31. Figure 29 gives the states of origin of hogs received at Portland for the years, 1909-1925. Figure 30 presents the data in Table 81, the shaded areas above the base line representing the amounts which Portland prices stood above Chicago prices during the years and months indicated and the shaded areas below the base line representing the amounts which Chicago sold above Porland. It will be noted that during the years 1913 to 1919, inclusive, few or no hogs were shipped in from the Middlewest, while in the several years prior there were considerable shipments.

At this point it may be well to inquire as to why Portland has had to bid for hogs from the Middlewest in some years and not in others. Obviously, the west has been on a deficit producing basis with respect to hogs during certain periods and on either a self-sufficing or a surplus above self-sufficing basis during other periods. By comparing hog prices at Chicago with hog prices at Portland, we should expect that the margins one way or the other would reflect the true conditions with respect to supply and demand in each area. Table 87 has been constructed with this aim in view. Plus figures indicate higher prices in Portland than in Chicago, and minus figures indicate the opposite.

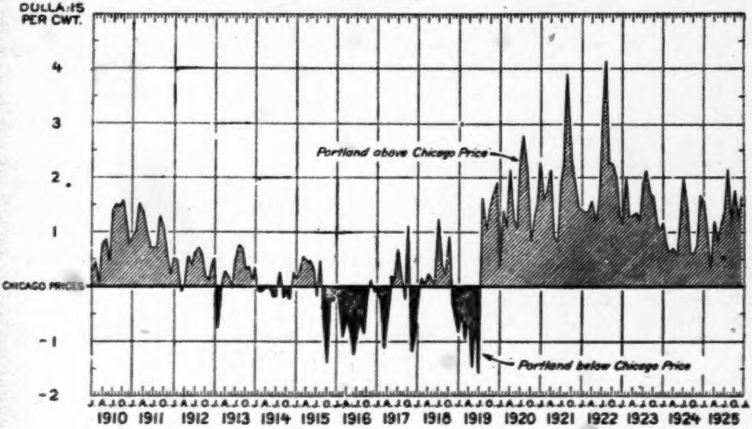
TABLE 81—Margin Between Hog Prices at Portland and Chicago, Portland over Chicago, 1910-1925.(1)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1910	.25	.45	.07	.77	.87	.47	1.40	1.52	1.47	1.60	1.20	.77
1911	.92	1.02	1.52	1.37	1.00	.70	.70	.70	1.30	1.07	.55	.22
1912	.50	.47	–.10	.20	.55	.37	.60	.70	.55	.18	.12	.35
1913	.50	–.78	–.05	.27	.15	–.03	.45	.75	.70	.32	.35	.12
1914	.35	–.80	–.10	–.30	–.30	–.18	–.18	.25	–.20	–.13	–.23	.25
1915	.15	.30	.55	.45	.47	.32	–.80	.47	–.53	–1.40	–.23	.28
1916	–.15	–.33	–.95	–.63	–.85	–1.25	–.85	–.70	–.88	–.18	.12	–.10
1917	–.10	–.33	–1.13	–.58	.10	.12	.67	.17	–.25	1.10	–1.23	–.93
1918	–.33	.15	.20	.22	.12	.20	1.22	.37	.22	.90	–.33	–.55
1919	–.85	–.60	–.98	–.65	–1.48	–.78	–1.58	1.62	1.05	1.45	1.67	1.90
1920	.33	1.37	1.06	2.13	1.22	1.07	2.28	2.76	2.12	.83	1.29	1.52
1921	2.26	1.58	1.75	2.12	.90	.81	1.93	2.24	3.89	2.40	1.86	1.45
1922	1.43	1.35	1.37	1.56	1.19	1.62	2.67	4.11	2.25	2.25	2.00	1.34
1923	1.13	1.98	1.27	1.29	1.34	1.20	1.83	2.10	1.70	1.63	1.15	1.00
1924	1.17	.79	.60	.69	.56	1.13	1.99	1.49	.60	.59	.73	1.67
1925	1.54	1.06	.32	1.20	.81	1.13	1.36	2.14	1.23	1.76	1.22	1.65

(1) United States Department of Agriculture, Bureau of Agricultural Economics special reports.

FIGURE XXXI

DIFFERENCE BETWEEN CHICAGO AND PORTLAND HOG PRICES
1910-1925



When we compare Figures 30 and 31, we find that during the years when Portland hog prices were higher than those of Chicago, part of the hog shipments came from the Middlewest. These were the circumstances existing from about 1909 to 1913 and again from 1920 up to the present time. However, during the years when Portland hog prices were lower than those of Chicago, no hog receipts originated from the Middlewest. This was the case from 1913 to 1919, inclusive.

OUTLOOK. Perhaps the greatest single precaution for Idaho and other western producers to take is to avoid producing a surplus above western market demands. As soon as the west places itself on an export basis hog prices will drop—not only by an amount equal to the freight differential from state of origin in the Middlewest to destination in the West, but also by the freight differential from shipping points out west to the middlewestern markets, or to wherever the surplus might be disposed of. Idaho hog producers would then be direct competitors with the hog producers in the corn belt and would also suffer the additional burden of higher freight rates.

What is this "over-production danger" number of hogs? The information at hand at the present time is insufficient to make any form of close estimate possible. Table 82 gives the number of hogs per 100 people in each of the 11 western states and in the United States as of January 1, 1920 to 1926. According to these estimates the 11 western states have scarcely half the number of hogs in proportion to population that the United States has. This number ranged from 19 hogs to 29 hogs for western states during 1920 to 1926, while for the United States as a whole the number ranged from 44 to 61 during the same period. If this proportion figure is worth anything as an index showing surplus and deficit producing areas, the only states in the West which apparently are producing a surplus at the present time are Idaho and possibly Colorado, Wyoming and Montana. An appreciable deficit appears to exist in the coast and southwest states.

TABLE 82—Number of Hogs per Hundred People, Western States and the United States, 1920-1926.(1).

States	1920	1921	1922	1923	1924	1925	1926 (2)
Montana	30	27	29	36	41	42	40
Wyoming	37	33	35	46	53	45	38
Colorado	47	43	46	59	60	47	42
New Mexico	24	24	25	24	19	15	12
Arizona	15	14	14	14	14	05	04
Utah	22	19	19	26	25	12	11
Nevada	35	32	32	32	36	35	28
Idaho	55	47	42	67	76	64	53
Washington	19	17	17	15	16	13	10
Oregon	34	29	28	26	26	25	23
California	27	23	22	22	21	13	11
Total 11 states	29	26	26	28	29	22	19
Total U S.	56	51	51	61	58	49	44

(1) Data computed from estimates as taken from U. S. D. A. *Yearbooks*, 1923-25 Population estimates from U. S. *Statistical Abstract* 1925.

(2) Preliminary.

The foregoing figures should not be interpreted to mean that the western states as a whole are producing scarcely half of present demand requirements. There are several complicating factors entering which makes such a conclusion unsafe, such as variation in per capita consumption, variation in the proportion of sows to total number on hand, variation in size of litter, and so on. It is reasonably safe to assume, however, that the deficit is sufficiently great to warrant a moderate expansion of the industry. As has been pointed out elsewhere in this discussion, Portland has received 7 to 38 percent of its hogs from states of the Middlewest in the past six years. Besides, there undoubtedly have been large shipments of pork products made to coast cities from the Middlewest in recent years.

The Beef Cattle Situation

Beef cattle production is the oldest agricultural enterprise in Idaho. The theory held by many that the homesteader and the development of cultivated areas are causing a decline of beef production has not held true in Idaho. Range cattle and sheep are the only industries that can utilize the millions of acres of waste land, forest reserves and range areas of low rainfall, and either or both of these industries are likely to continue to occupy an important position in Idaho agriculture.

In 1880 Idaho had slightly more than 70,000 range cattle, while in 1925 there were about half a million head. Beef production was kept at a rather constant level from 1900 to about 1914, the number of "other cattle' ranging from 312,000 to 358,000 during the period. After 1914 the trend was definitely upward for a number of years. A considerable

TABLE 83—Cattle Other than Milk Cows, Idaho, (1) as of January 1, 1900-1926.

Year	Number of cattle	Year	Number of cattle
1900 x	312,000	1910 x	368,000 x
1901-1-	337,000	1911	346,000
1902	362,000	1912	343,000
1903	351,000	1913	340,000
1904	358,000	1914	354,000
1905	351,000	1915	379,000
1906	351,000	1916	406,000
1907	344,000	1917	465,000
1908	347,000	1918	488,000
1909	340,000	1919	537,000
		1920 x	577,000 x
		1921	426,000
		1922	426,000
		1923	520,000
		1924	525,000
		1925 x	452,000 x
		1926	423,000

(-1-) Interpolated.
(1) Years 1902-1909 from U. S. D. A. *Yearbook*, 1910-1926, state statistician and federal census.
(x) Census years.

decline took place in 1921 and in 1925 over the preceding years, due in the first instance to forced liquidation and in the second case to feed shortage and higher priced hay in Idaho. The general trend since 1920 has been downward. (See Table 83).

The beef cattle industry in Idaho is mostly a range proposition. The topography is such that range areas are found scattered over most of the state. The accompanying map, (Figure 32) shows in a diagramatic way the more clearly defined range cattle and sheep sections. The heavy shading designates sections principally devoted to range and lighter shading the sections of scattered ranges.

MARKETS FOR IDAHO CATTLE. Percentage distribution of shipments to the more important markets in 1925 was as follows:

Ogden	42.3 percent	Seattle	3.7 percent
Portland	25.8 percent	Omaha	3.0 percent
Salt Lake	10.6 percent	Denver	2.9 percent
California	7.2 percent	Other	0.6 percent
Spokane	3.9 percent		

More than half of the total shipments went to Ogden and Salt Lake City. Portland, Seattle and other coast cities received about 37 percent and Spokane about 4 percent, leaving but 6 percent of total shipments moving to Denver and points eastward.

The 1925 distribution of calf shipments from Idaho was as follows:

Portland	12,069	Tacoma	625
California	1,801	Denver	121
Seattle	805	Spokane	736
		Total	16,157

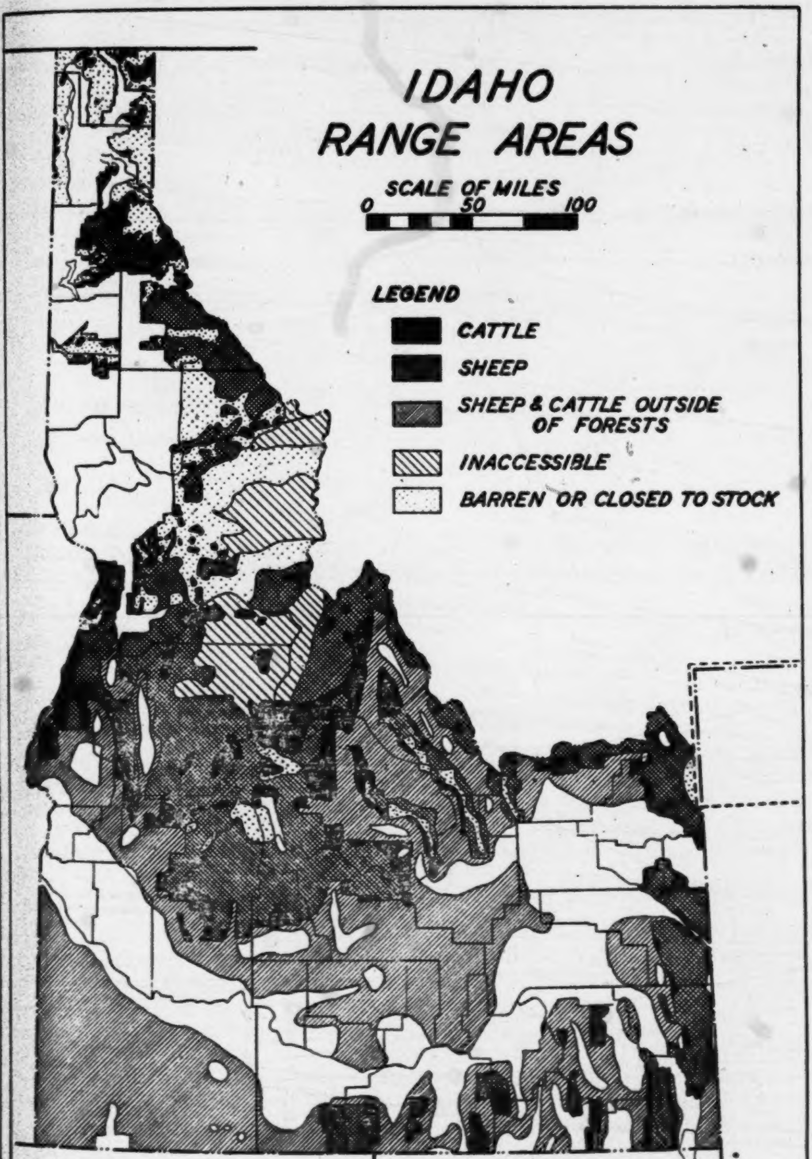
The outstanding importance of Portland as a market for Idaho calves is apparent. Nearly three-fourths of the total number went there, while the other coast cities and Spokane took virtually all other shipments.

Portland has received a considerable portion of its calves from Idaho shipping points the past few years. The percentage of its total supply of calves received from Oregon, Idaho and other states follows:

TABLE 84—Percentage of Portland Calf Receipts Coming From Idaho, Oregon, Other States

	Percentage from		
Year	Idaho	Oregon	Other states
1920	25.4	66.5	8.1
1921	17.0	73.8	9.2
1922	21.2	67.2	11.6
1923	37.5	54.5	8.0
1924	39.0	54.7	6.3
1925	44.1	50.3	5.6

FIGURE XXXII


IDAHO
RANGE AREAS
SCALE OF MILES
0
50
100
LEGEND
CATTLE
SHEEP
SHEEP & CATTLE OUTSIDE OF FORESTS
INACCESSIBLE
BARREN OR CLOSED TO STOCK

The supply areas for cattle at Portland are shown as percentages of the total supply in the following table:

TABLE 85—Percentage of Portland Cattle Receipts from Idaho, Oregon, Other States

Year	Idaho	Oregon	Other states
1920	19.9	66.4	12.7
1921	22.1	63.4	14.5
1922	25.3	53.7	11.0
1923	23.5	56.5	10.0
1924	27.0	60.0	13.0
1925	25.0	60.5	14.5

Idaho ranked fourth in numbers of cattle shipped to Los Angeles the first six months of 1926. The principal states supplying that market were:

California	53,100 cattle
Arizona	13,731 cattle
Utah	12,754 cattle
Idaho	6,383 cattle
Total receipts	102,281 cattle

PRICES. Yearly average top prices of steers at Portland based on monthly average prices for the period 1910 to 1926, were as follows:

Price per Cwt.

1910	6.29	1917	10.10	1921	7.87
1911	6.44	1918	13.27	1922	8.20
1913	7.09	1919	12.60	1923	7.92
1914	7.76	1920	11.50	1924	8.30
1915	7.50	Ave. 1917-20	11.87	1925	8.59
1916	8.03			1926	8.42
Ave. 1910-1916	7.33			Ave. 1921-26	8.21

The 1921-26 monthly average price at Portland was as follows:

January	$8.27	May	8.80	September	7.58
February	8.16	June	8.45	October	7.34
March	8.36	July	7.99	November	7.54
April	8.64	August	7.74	December	7.88

PRICES AND COSTS. Prices have, on the average, been lowest in October. They have gradually risen through January, have taken a slight dip in February, and then have continued upward thru May. They have declined from June through October. The range from the month of lowest prices (October) to the month of highest prices (May) was $1.46 for the period averaged.

The most conservative estimated cost that can be put on beef production and allow interest on a reasonable investment, is $90.00 per head or $9.00 per hundredweight for two-year-old steers and dry cows mixed. Since the usual spread between steers and cows is about $1.75 per hundredweight, and since sale cattle run about 55 percent two-year-old steers and 45 percent cows, a fair division of the cost places the cost of the steers at $9.75 per hundredweight and of cows at $8.00 per hundredweight. This is for grass cattle during the summer and fall and is f. o. b. the ranch. The cost delivered in Portland would average $1.00 per hundredweight more. Steers produced for the winter market would likewise cost 35 cents per hundredweight more for each month they were held after the grass season. The whole situation may be summarized as follows:

Two Year Old Grass Fed Steers

	Per Cwt. farm price
Cost of production	9.75
Average selling price, 1922, 1923, 1924	6.25
Loss	3.50
Average selling price, 1925	7.00
Loss	2.75

It might be assumed that in the above costs of production, interest was charged on an inflated value of grazing-lands. When all interest charges on grazing lands are eliminated, however, the cost of producing grass-fed two-year-old steers was found to be $8.60 per hundredweight.(1)

THE UNITED STATES INDUSTRY. The national trend of the industry has an important bearing upon the beef outlook in Idaho. Figure 33 shows the trend in numbers of all cattle and cattle other than milk cows from 1880 onward. (Data taken from U. S. D. A. Yearbook, 1921-1925). Numbers of cattle increased greatly from 1880 to about 1884-85, but decreased from 1885 to 1905, inclusive, An upward trend again took place in the two or three years following, followed by a downward trend for several years thereafter. The cycle was again repeated, trending upward from 1916 to 1920 and then downward again to the present time. Generally speaking, the total number of cattle other than milk cows has trended downward since 1895. The population of the United States increased continually thruout the period, which means that the per capita domestic production has been decreasing over the period. Import and export beef and veal are relatively unimportant at the present time.

CONSUMPTION OF BEEF. Figures on per capita consumption of beef and veal are not obtainable prior to 1907. With the introduction

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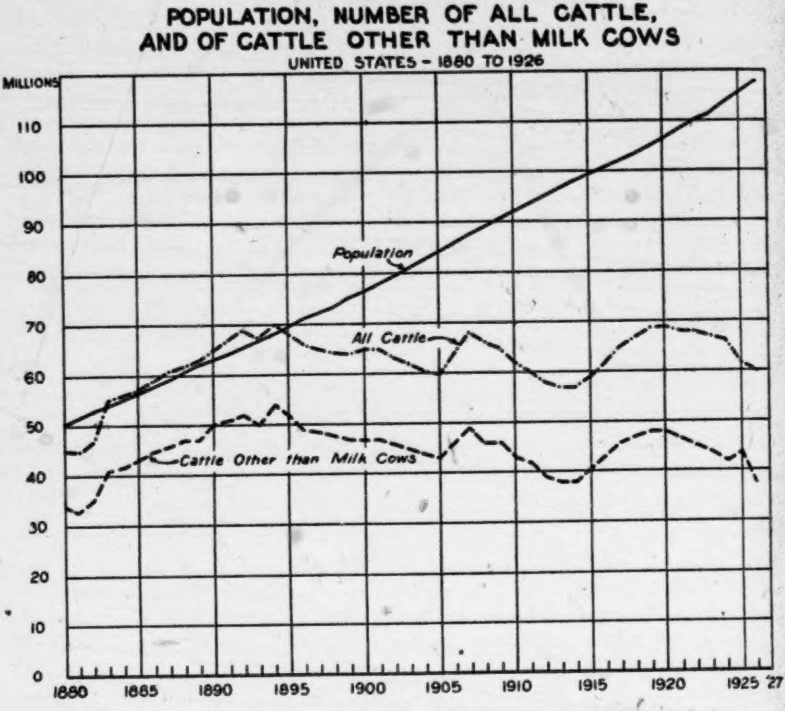
(1) Oregon Agricultural Experiment Station Bulletin 220, 1925.

FIGURE XXXIII



of federal inspection of meat about that time more accurate statistics are obtainable. The consumption of beef per capita has declined for the past 20 years or so. A comparison of the two periods, 1907 to 1910 and 1911 to 1921, shows that the decrease in consumption per capita amounted to about 20 percent. In recent years, however, the per capita consumption has remained about the same. The yearly consumption estimates follow:

TABLE 86—Per Capita Consumption of Beef and Veal in the United States, 1907-1925 (1)

Year	Per capita consumption of beef and veal
1907	86.8
1908	79.2
1909	83.9
1910	79.2
1911	80.9
1912	74.5
1913	65.8
1914	63.3
1915	60.0
1916	63.4

1917	68.5
1918	72.4
1919	65.5
1920	70.0
1921	66.0
1922	68.7
1923	70.4
1924	70.9
1925	70.8

(1) Data from U.S . D. A. Yearbooks 1921-1925.

The problem of market demands becomes further complicated by the fact that one market wants heavy beef and another light beef. Seasonal demands for different cuts are also an important factor. The general trend of demand in more recent years has been toward lighter cuts of meat, with a corresponding tendency to produce cattle of lighter weight and earlier age. Consumption per capita of veal greatly increased from 1915 to 1921 as indicated by the increase in calves slaughtered. This increase has been maintained up to the present time.

Considered from the long-time point of view beef prices have moved in definite cycles of from 12 to 15 years. Figure 34 shows in graphic form the purchasing power of good choice beef at Chicago from 1880 to 1925, expressed in terms of the Bureau of Labor statistics "all-commodities" index number. The general trend of purchasing power has been definitely upward, although cycles are pronounced. The trend has been downward in recent years and it would seem that the upward swing of the cycle may be imminent.

FIGURE XXXIV

PURCHASING POWER OF GOOD TO CHOICE BEEF
AT CHICAGO — 1880 TO 1926

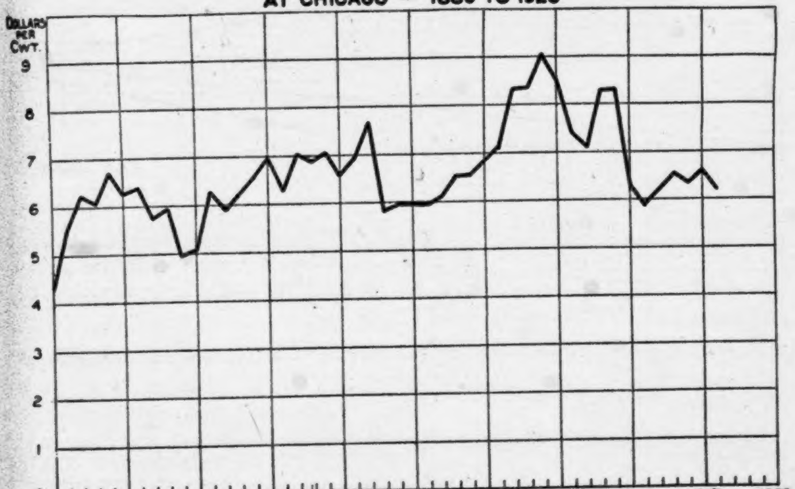


TABLE 87—Beef at Chicago: Price per cwt., Good to Choice, 1880-1926(1)

Year	Average price	Index No. (2)	Purchase power (3)
1880	$4.81	99	$4.86
1881	6.19	97	6.38
1882	7.18	100	7.18
1883	6.53	98	6.66
1884	6.63	92	7.20
1885	5.79	86	6.73
1886	5.76	85	6.77
1887	5.19	85	6.10
1888	5.67	87	6.52
1889	4.65	87	5.34
1890	4.14	82.0	5.05
1891	5.098	81.5	6.25
1892	4.50	76.2	5.90
1893	4.839	78.0	6.20
1894	4.525	70.0	6.54
1895	4.934	71.3	6.92
1896	4.271	67.9	6.29
1897	4.774	68.0	7.02
1898	4.885	70.9	6.88
1899	5.385	76.3	7.06
1900	5.394	82.0	6.58
1901	5,590	80.8	6.92
1902	6.557	85.9	7.63
1903	5.062	87.1	5.81
1904	5.192	87.2	5.95
1905	5.219	87.8	5.94
1906	5.357	90.2	5.94
1907	5.812	95.2	6.10
1908	5.998	91.8	6.53
1909	6.453	98.7	6.54
1910	7.017	102.7	6.83
1911	6.727	94.7	7.10
1912	8.402	100.9	8.32
1913	8.507	101.8	8.35
1914	9.039	99.9	9.05
1915	8.702	102.6	8.48
1916	9.573	129.0	7.42
1917	12.809	180.3	7.10
1918	16.424	197.7	8.30
1919	17.496	210.1	8.32
1920	14.486	230.2	6.29
1921	8.78	149.6	5.87
1922	9.438	151.5	6.23
1923	9.952	156.5	6.56
1924	9.67	152.4	6.34
1925	10.644	161.3	6.60
1926	9.583	154.	6.21

(1) Senate report 3074-2. Aldrich 1880-1889. New York quotations, 1880-1889. Bureau of Labor statistics, 1890-1926.

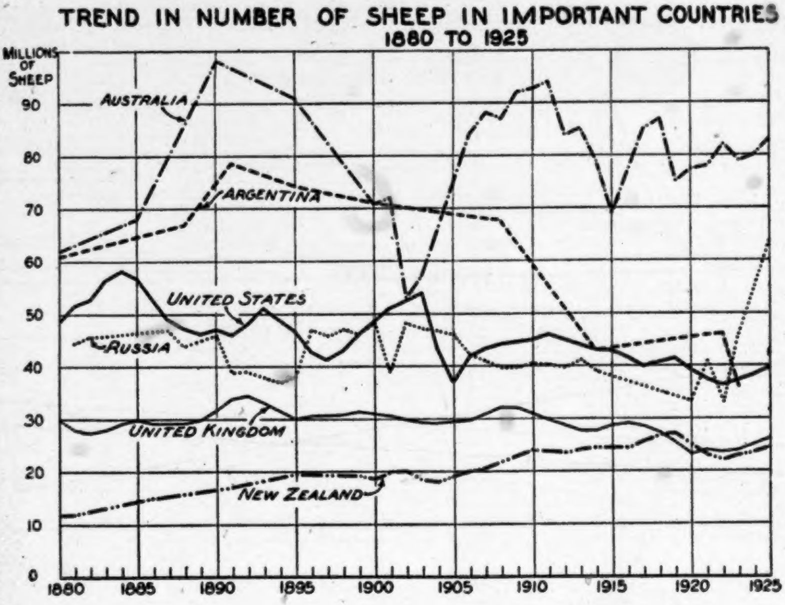
(2) Bureau of Labor statistics "all commodities" index number (converted to 1910-14 base from 1890 to 1925.)

(3) Price divided by index number.

The Sheep Industry

The United States has drawn a large part of its wool supply from foreign countries for a long time. It is important, therefore, to know the trends in sheep and wool production in the more important producing countries, along with a study of trends in the United States, in order to determine to what extent external factors influence the industry in Idaho. (See Fig. 35. Data from U. S. D. A. yearbooks 1923-1925).

FIGURE XXXV



In general the number of sheep in the United States has trended definitely downward since 1900-03. (See Table 88). The federal census of 1900 placed the number of sheep on farms at about 61,500,000, while the 1926 preliminary estimate places the number at 40,748,000. The trend in wool production has taken a somewhat different course. There was an upward trend in wool production from 1900 to about 1910, and thereafter the trend was downward.

The trend since 1922 has been upward both in numbers of sheep and in total wool production.

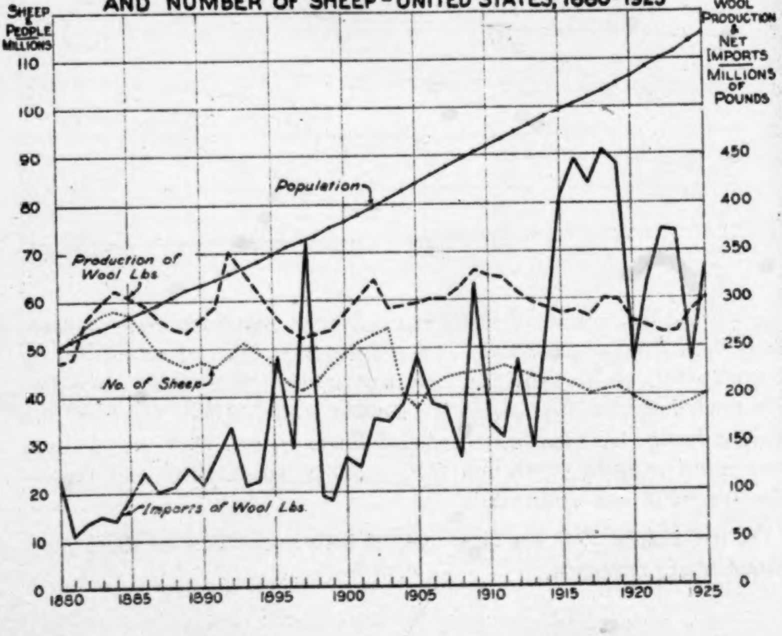
TABLE 88—Sheep: Number on Farms, United States, January 1, 1870-1926(1)

Year	Number (Thousands)	Year	Number (Thousands)	Year	Number (Thousands)
1870 (2)	28,478	1907	53,240	1917	47,616
1880 (2)	35,192	1908	54,631	1918	48,603
1890 (2)	35,935	1909	56,084	1919	48,866
1900 (2)	61,504	1910(3)	52,448	1920	39,025
				Av-1914-20	47,487
1901	59,757	1911	53,633	1921	37,452
1902	62,039	1912	52,362	1922	36,327
1903	63,965	1913	51,482	1923	37,223
		Av-1909-13	53,202		
1904	51,630	1914	49,719	1924	38,300
1905	45,170	1915	49,956	1925	39,390
				Av-1921-25	37,738
1906	50,632	1916	48,625	1926(4)	40,748

(1) U. S. D. A. *Yearbooks*—1923-1925.
(2) June 1 census data.
(3) April 15.
(4) Preliminary.

FIGURE XXXVI

POPULATION, PRODUCTION & NET IMPORTS OF WOOL, AND NUMBER OF SHEEP-UNITED STATES, 1880-1925



IMPORTS. While imports of wool have for a long time been an important factor in the United States, the fluctuations in volume from year to year have varied widely. (See Fig. 36, Data from U. S. D. A. yearbook, 1923-1925). During the war imports increased enormously, amounting to considerably more than half of the total domestic consumption. There was some falling off after the war, altho the percentage is still quite high. Table 89 indicates the proportion of net imports to apparent consumption from 1900 to 1925. The increasing importance of imports is apparent.

TABLE 89—Wool Raw: Production, Net Imports, Exports and Apparent Consumption,(1) United States, 1900-1925

Calendar Year	Production (1000 pounds)	Net imports	Excess of imports over all exports	Apparent consumption	percent net imports to apparent consumption
1900	288,637	136,862	136,440	425,077	32.1
1901	302,502	121,633	121,541	424,043	28.7
1902	316,341	173,681	172,635	488,976	35.3
1903	287,450	170,327	169,943	457,393	37.1
1904	291,783	184,408	184,224	476,007	38.7
1905	295,488	242,543	242,471	537,959	45.0
1906	298,915	192,432	192,081	490,996	39.1
1907	298,295	185,197	185,111	483,406	38.4
1908	311,138	135,574	135,405	446,543	30.3
1909	328,111	311,047	311,001	639,112	48.6
1910	321,363	171,080	171,032	492,395	34.7
1911	318,548	152,412	152,412	470,760	32.3
1912	304,043	236,302	236,302	540,345	43.5
1913	296,175	147,954	147,877	444,052	33.3
1914	290,192	253,739	253,404	543,596	46.6
1915	285,726	410,623	402,465	688,191	58.5
1916	288,490	447,062	443,143	731,633	60.5
1917	281,892	419,574	417,747	699,639	59.6
1918	298,870	453,212	452,805	751,675	60.2
1919	298,258	440,204	437,364	735,622	59.5
1920	277,905	246,982	238,137	516,042	46.2
1921	271,562	319,061	317,134	588,696	53.8
1922	264,560	372,048	371,795	636,355	58.4
1923	266,110	370,062	369,527	635,637	58.1
1924(3)	286,205	235,179	234,870	526,353	44.6
1925(3)	301,060	329,559	329,286	622,970	53.0

(1) 1900-1923—From U. S. D. A. 1923 *Yearbook.*
(3) From U. S. D. A. 1925 *Yearbook.*

THE IDAHO SITUATION. The sheep industry in Idaho is carried on both under farm conditions and under range conditions, altho range sheep production is considerably the more important. (See Figure 32 on sheep ranges in Idaho). Table 90 shows the number, value per head and total value of all sheep in Idaho from 1900 to 1926. It is apparent from the estimates that the general trend in numbers of sheep has been downward over the period. The 1921-25 average number was about 2,500,000; the 1915-20 average, 3,110,000; and the 1903-08 average, 3,675,000.

TABLE 90—Sheep. Including Lambs: Number on Farms, Jan., 1, Idaho(1).

Year	Number (1000's)	Year	Number (1000's)
1900	3,122	1916	3,102
1903	4,542	1917	3,170
1904	3,588	1918	3,202
1905	2,978	1919	3,234
1906	3,720	1920	2,914
1907	3,648	1921	2,623
1908	3,575	1922	2,492
1909	3,897	1923	2,542
1910 (3)	4,248	1924	2,491
1910 (2)	3,011	1925	2,291
1911	2,951	1926 (5)	2,337
1912	2,951	1921-25 Average	2,499
1913	2,951	1915-20 Average	3,110
1914	2,981	1909-14 Average	3,123
1915	3,041	1903-08 Average	3,675

(1) U. S. D. A. *Yearbook,* 1924 and 1925.
(2) Idaho Agricultural Review. Years 1910-21 Incl.
(3) U. S. D. A. *Yearbook,* 1909 estimate.
(4) Federal census.
(5) Preliminary.

One apparent reason for the general downward trend in numbers of sheep from 1900 to 1926 has been the decrease in the amount of grazing land available in the western country. It is the general opinion of those familiar with the sheep industry that there can be no material increase in numbers of range sheep. The limiting factor in much of the western country, especially the northwestern part, is the amount of summer feed available. There is an abundance of winter feed in most of the range areas of the state.

WOOL PRODUCTION. Wool production is another indication of the trend and status of the industry. While the number of fleeces has trended downward somewhat since 1900, the weight per fleece has trended upward, thus tending to hold total production up. As indicated in the accompanying table total production trended downward only slightly over the period. The 1920-25 average weight per fleece was 8.05 pounds, the 1914-19 average was 7.87 pounds, the 1903-13 average was 7.37 pounds, and the 1900-07 average was 7.11 pounds.

IDAHO SHEEP AND LAMB MARKET. Table 92, gives the receipts of Idaho sheep and lambs at the principal markets thruout the United States. These figures do not cover direct shipments to feeders or to packers not going thru the public stockyards. Receipts at Ogden have increased greatly in the past few years. Omaha, Chicago, and St. Joseph are the most important markets in the East. West coast markets are relatively unimportant.

TABLE 91—Wool—Fleece: Estimated Production in Idaho (1).

Year	Production	Weight per fleece	No. of fleeces
	1000 lbs.	(Pounds)	(1000's)
1920-25 Average	16,969	8.05	2,106
1914-19 Average	17,370	7.87	2,203
1908-13 Average	17,295	7.37	2,350
1900-07 Average	17,473	7.11	2,460
1900	19,321	7.50	2,576
1901	20,336	7.25	2,805
1902	18,125	7.25	2,500
1903	16,800	7.0	2,400
1904	14,950	6.5	2,300
1905	16,100	7.0	2,300
1906	16,905	7.35	2,300
1907	17,250	7.0	2,500
1908	17,500	7.0	2,500
1909	21,000	7.5	2,800
1910	18,980	7.3	2,600
1911	16,500	7.5	2,200
1912	15,540	7.4	2,100
1913	14,250	7.5	1,900
1914	14,792	7.8	1,896
1915	15,285	7.9	1,935
1916	15,000	7.6	1,980
1917	17,500	7.6	2,303
1918	19,500	7.9	2,468
1919	22,145	8.4	2,636
1920	18,650	8.1	2,302
1921	16,800	8.0	2,100
1922	16,642	7.8	2,134
1923	15,455	8.1	1.903
1924	16,800	8.0	2,100
1925	17,347	8.3	2,090

(1) U. S. D. A. *Yearbooks*, 1925, 1924, 1923, and 1922, also earlier issues.

The monthly shipments of Idaho sheep and lambs at public stockyards for the years 1923 to 1926 are given in Table 93. June, July, August and September are the months of heaviest marketings, while the winter and spring months are lowest.

MARKETING OF LAMBS. Idaho enjoys a favorable market for its milk fat lambs. Idaho is able to produce these milk fat lambs thru the summer months, because of the excellent summer feed con-

TABLE 92—Receipts of Sheep from Idaho at Principal Markets, 1923-1926(1)

Market	1923	1924	1925	1926
Total Movement	1,430,964	1,799,297	1,820,363	2,129,519
Total to Stockyards	1,418,544	1,489,947	1,808,964	2,115,875
Omaha	646,219	704,715	542,425	578,027
Chicago	545,562	564,196	310,768	436,208
St. Joseph	82,477	128,185	113,267	199,818
Kansas City	48,284	43,969	54,677	52,595
Denver	72,845	115,349	271,512	141,290
Ogden	(2)	114,299	289,233	513,366
Salt Lake City	(2)	(2)	145,152	116,955
Portland	10,928	12,534	2,410	7,170
Seattle	7,327	10,278	2,996	3,235
Spokane	3,489	10,008	5,212	15,071
California	(2)	85,320	66,150	44,915
Others	1,413	1,094	5,062	7,225

(1) Data from U. S. D. A. Bureau of Agrciultural Economics, special reports. These records cover only shipments of sheep and lambs from Idaho to public stockyards and do not cover direct shipments to feeders or to packers not going thru the public stockyards. This latter movement is of considerable volume. Also there is undoubtedly considerable duplication in the above figures as many shipments are diverted from one market to another.

(2) No report for these markets.

TABLE 93—Monthly Shipments of Idaho Sheep and Lambs to Public Stockyards, 1923-1926(1).

Month	1923	1924	1925	1926	Average 1923-1926	Percentage of average yearly shipments
January	51,638	38,577	37,730	37,163	41,272	2.3
February	52,091	52,665	34,434	51,174	47,591	2.7
March	22,413	37,575	27,056	38,374	31,355	1.8
April	12,557	10,720	3,526	8,542	8.836	.5
May	8,544	26,610	22,926	27,139	21,305	1.2
June	57,538	255,858	234,250	394,311	235,239	13.2
July	295,420	356,281	358,959	383,253	348,478	19.5
August	349,527	383,824	402,676	468,090	401,029	22.5
September	297,329	380,341	323,917	348,124	337,428	18.9
October	184,593	149,913	191,671	141,534	166,928	9.4
November	47,156	62,568	93,794	144,522	97,010	4.9
December	39,738	35,035	77,925	73,649	56,587	3.1
Totals	1,418,544	1,789,947	1,808,864	2,115,875	1,783,058	100.0

(1) Data from U. S. D. A. Bureau of Agricultural Economics, special reports.

ditions in the high mountain ranges. The greater part of the Idaho lambs shipped thru the summer and early fall go east. (See Table 92).

Idaho farmers try to handle and market their lambs in the same general way as the sheep men. During recent years farm lambs have made up quite a number of the early shipments in the summer.

Idaho sheep producers are primarily interested in the lamb crop, altho naturally a reasonable amount of time is given to wool. About two-thirds to three-fourths of the cash returns are from lambs, the balance coming from wool. The bulk of Idaho lambs are ready for slaughter when shipped, there being a very small percentage of feeders produced within the state. Naturally that varies with the feed conditions.

There is a logical place in Idaho for lamb feeding to dispose of the surplus feeds; also, to market the feeder or cut-back lambs as finished products for the market. Feed and climatic conditions are excellent for winter lamb feeding. There is an increasing demand for fat lambs on Pacific Coast markets, altho the greater portion of the Idaho feed lot lambs move eastward.

Numbers of range sheep in Idaho will probably not be increased to any great extent in the future, but it is reasonable to expect some increase in numbers of farm sheep.

Early in the history of the United States, sheep were raised almost exclusively for wool. Later on mutton became of increasing importance as a market commodity, and more recently the production of lamb has assumed a dominating place in the industry. According to the U. S. D. A. Yearbook for 1923, the sales of sheep and lambs in 1899 provided 52.3 percent of the flock receipts and sales of wool 47.7 percent. In 1919 they provided 56.6 percent and 43.4 percent respectively.

PRICES. Yearly average prices of native and western lambs at Chicago, 1910 to 1926, were as follows:

TABLE 94—Lambs, Native and Western, Price per cwt., Chicago, 1910-1926(1)
(Simple Average of Monthly Average Prices).

Year	Price per cwt. $	Year	Price per cwt. $	Year	Price per cwt. $
1910	7.59	1916	10.77	1921	9.86
1911	5.93	1917	15.68	1922	13.68
1912	7.18	1918	16.98	1923	13.89
1913	7.69	1919	16.31	1924	14.57
1915	9.05	1920	15.47	1925	15.66
		Av 1917-20	16.11	Av 1921-25	13.53
				1926(2)	13.73

(1) Data from U. S. D. A. Yearbook, 1925, p. 1161.
(2) Bureau of Labor statistics—Lambs, western, medium to good.

Prices trended upward from 1910 to 1919-20. During the war years and through 1920, prices were unusually high. A severe drop came in 1921, but this was followed by an appreciable rise in prices the next year. Prices in 1926 were about two dollars a hundred less than in 1925. The 1921-25 average monthly top prices per cwt. of lambs at Chicago were as follows:

January	$13.98
February	14.19
March	14.44
April	13.86
May	13.29
June	13.58
July	13.25
August	12.66
September	12.90
October	12.85
November	13.13
December	14.27

(1) U. S. D. A. Yearbook, 1925 p. 1161.

For the period averaged prices have, on the average, ruled lowest from August to October. Prices have then trended upward during the fall and winter months and through March. February and March have averaged highest—over $14.00 per hundred—whereas the late summer and fall months averaged less than $13.00 per hundred.

Wool prices, like those of sheep and lambs, have fluctuated greatly in the past. While fluctuations have not been as wide as those for

TABLE 96—Wool: Average Price per Pound and Purchasing Power, Boston Market 1900-25(2)

(Ohio, Penn., and W. Va.—3-8 Blood—Unwashed)

Year	Index number (1)	Price per lb. (cts.)	Purch. power per lb. (cts.)	Year	Index (1) number	Price per lb. (cts.)	Purch. power per lb. (cts.)
1900	82.0	26	31.7	1915	102.6	36	35.0
1901	80.8	22	27.2	1916	129.0	42	32.5
1902	85.9	22	25.6	1917	180.3	67	37.1
1903	87.1	25	28.7	1918	197.7	77	39.0
1904	87.2	28	32.1	1919	210.1	67	31.8
1905	87.8	34	38.7	1920	230.2	53	22.8
1906	90.2	33	36.6	1921	149.6	28	18.7
1907	95.2	33	34.7	1922	151.5	46	30.4
1908	91.8	27	29.4	1923	156.5	56	35.8
1909	98.7	34	34.5	1924	152.4	57	37.4
1910	102.7	31	30.2	1925	161.3	58	35.9
1911	94.7	26	27.5	1926			
1912	100.9	29	28.7				
1913	101.8	26	25.5				
1914	99.9	26	26.0				

(1) U. S. Bureau of Labor Statistics,—all commodities index; converted to 1910-14 base.
(2) U. S. D. A. *Yearbook*, 1925, p. 1175.
(3) Price divided by index number.

mutton and lamb, they have exceeded those in most other important commodities.

OUTLOOK. According to the United States Bureau of Agricultural Economics, sheep in this country have been on the upturn of the production cycle since 1922 and present indications are for a continued moderate increase in numbers. Sheep and lamb prices have trended downward since 1925. Lamb supplies for 1927 may be slightly larger than for 1926. Consumptive demand for lamb is expected to continue strong thru 1927 but feeder demand may be less active than in 1926. The wool market appears firm with no marked changes in sight. Domestic prices on all grades of wool declined materially during the first half of 1926, but advanced slightly during the second half. Grease wool prices for the first week of 1927 were from 6 to 10 cents lower than they were the year previous.

The Horse Situation

Horse production in Idaho is essentially a farm enterprise and the bulk of horses produced is used primarily in agricultural pursuits. The lumbering industry in the state normally absorbs the surplus of the more drafty sorts, ranging from 1600 to 2000 pounds, and quality horses of this character command good prices. Very few of the specialized lighter breeds are produced within the state. The demand for pleasure mounts, however, is increasing and it is probable that this demand may increase as the cities in this and nearby states grow.

The production program in the future must obviously concern itself with a drafty horse of ample weight with wearing quality and com-

TABLE 97—Number of Horses and Mules, Idaho, 1910-1926(1)

Year	Horses	Mules
1926	221,000	8,000
1925	236,000	8,000
1924	250,000	8,000
1923	261,000	8,000
1922	274,000	8,000
1921	284,000	8,000
1920	293,000	8,000
1919	276,000	4,000
1918	265,000	4,000
1917	250,000	4,000
1916	241,000	4,000
1915	243,000	4,000
1914	234,000	4,000
1913	223,000	4,000
1912	214,000	4,000
1911	208,000	4,000
1910	198,000	4,000

(1) State statistician's reports.

mendable action, for that is the only sort that will assert itself successfully and command the correct adjustment in competition with power machinery.

Table 97 indicates the number of horses and mules in Idaho since 1910.

Average yearly prices of horses in Idaho from 1910 onward are indicated in the following table:

TABLE 98—Horses: Price per Head—1900-1925 (1)

Year	Price per head	Year	Price per head	Year	Price per head
1910	$ 148.	1915	$ 120.	1920	$ 112.
1911	133.	1916	122.	1921	90.
1912	131.	1917	129.	1922	87.
1913	128.	1918	125.	1923	76.
1914	121.	1919	111.	1924	64.
				1925	63.

(1) Yearly prices are simple averages of monthly prices as reported in the monthly supplements of *Crops and Markets*.

The general trend of prices has been downward since 1910. Prices recovered somewhat during the war but after that time prices trended downward despite the decrease in numbers of horses.

Present numbers of work animals are apparently ample to meet farming needs the coming season, but the number of young stock is only large enough to maintain about half the number of work stock now on farms. Farmers can scarcely expect to replace their work stock a few years from now at the low level of present day horse prices.

The Bee and Honey Situation

Honey production in Idaho is a comparatively small industry. The accompanying table will give some notion of the extent of the business in 1919. The industry has developed considerably since 1919 but no data are available to show this.

Only the important producing counties are listed. It will be observed that the counties included lie primarily in the Boise Valley, the south central, and the Upper Snake districts.

Most of the honey produced on a commercial scale in Idaho is produced by individuals who make bee raising their principal occupation.

TABLE 99—Bees and Honey: Production and Value, Important Producing Counties, 1919(1)

County	Bees (hives)	Honey production (pounds)	Wax (pounds)	Value honey and wax
1. Ada	3978	152159	3112	$ 43788
2. Bingham	3528	143435	1689	40804
3. Canyon	3859	142128	1747	40460
4. Twin Falls	5052	134773	1124	38163
5. Jefferson	1297	71608	1133	20481
6. Bonner	1144	67384	741	19150
7. Bonneville	865	59718	466	16906
8. Payette	1972	58475	1001	16753
9. Gem	1261	45756	180	12880
10. Cassia	1685	43831	530	12474
11. Owyhee	1798	40308	292	11397
12. Minidoka	1172	35909	1241	10527
Total	26611	995484	13256	283783
The state	35900	1208229	15653	344255

(1) Federal census. data

Detailed data on prices paid to producers for honey in the state are lacking. The U. S. D. A. *Yearbook* for 1925 gives the following average yearly prices paid to beekeepers and other shippers in car lots, f. o. b. intermountain points:

1921	7.8c per pound
1922	8.4c per pound
1923	8.2c per pound
1924	9.1c per pound
1925	8.8c per pound

At the present time the marketing problem is probably more acute than any other. There is some prospect that it may be solved thru cooperative effort.